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THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., Editor

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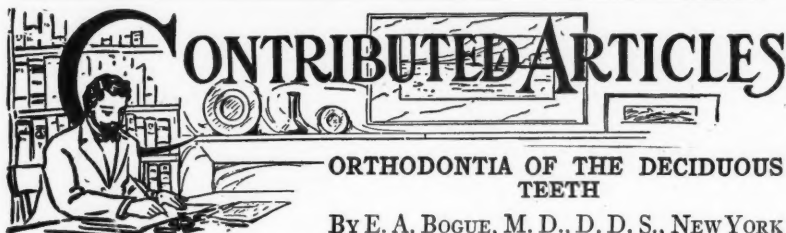
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Vol. XXII

NOVEMBER, 1916

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ORTHODONTIA OF THE DECIDUOUS TEETH

By E. A. BOGUE, M. D., D. D. S., NEW YORK

SECOND PAPER

All accessible works on Orthodontia deal with permanent teeth and yet in a book published in London in 1811, "Joseph Murphy on Teeth," we find the following: "It is now pretty generally known, that children's teeth may be regulated in their growth, so as to prevent any irregularity arising from that cause; but it is of the greatest importance that the regulating of children's teeth be entrusted to proper and skillful hands." No, instructions are given, however.

In 1845 Nasmyth published: "Projecting upper jaw often due to sucking the thumb and fingers in infancy. But both projecting upper and lower jaws arise from arrest of development in the jaw when the expansion of the arch is deficient."

Both these bits of knowledge remained unemployed except by individual practitioners and were not recognized as rules of practice until the Forsyth Institute for Children recognized that the earlier a physical defect in the child can be distinctly diagnosed and corrected, the better it will be for the child.

I will now show you the next group of children's models, all of them

*This article was commenced in the October number

(Text matter continued on page 696)



Fig. 20



Fig. 21

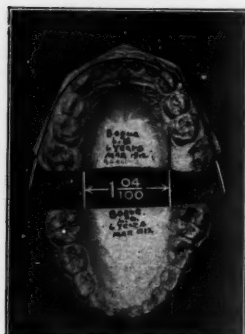


Fig. 22



Fig. 23

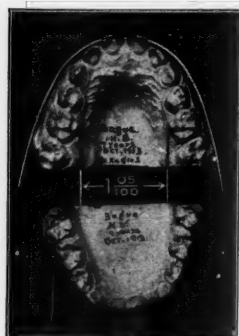


Fig. 24

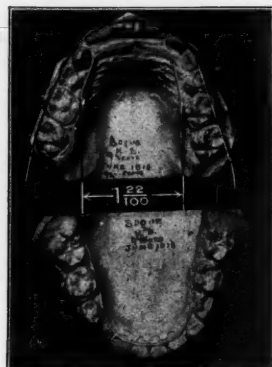


Fig. 25

UNDEVELOPED ARCHES MADE INTO NORMAL ARCHES

Left hand pictures show arches before spreading. Right hand pictures show same arches after spreading. Slight pressure, continuously applied, enlarges temporary dental arches in a few weeks and brings temporary molars to the point at which the bicuspid, which are directly beneath these molars, ought to erupt. The temporary incisors should at the same time share in the enlargement of the arch and be spread apart so that their successors shall have room to erupt regularly. See Figs. 20-25.

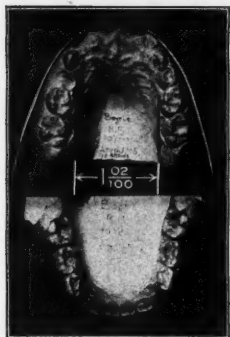


Fig. 26

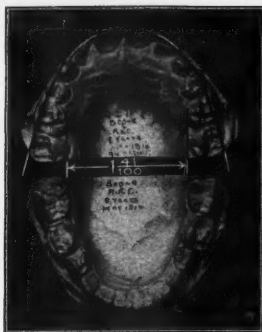


Fig. 27

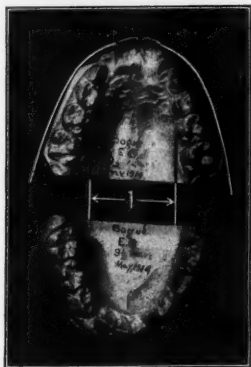


Fig. 28



Fig. 29

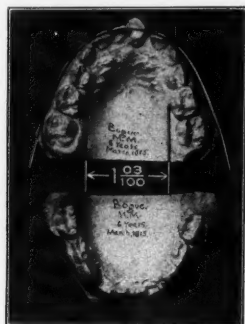


Fig. 30



Fig. 31

Left hand pictures show arches before spreading. Right hand pictures show same arches after spreading. If this enlargement is done early enough in life to cause the bicuspids to erupt far enough apart laterally to give room for the orderly eruption of all the permanent teeth, good mastication, good breathing, straight shoulders, good enunciation, and good health, all become not only possible but far more probable than would be the case if this spreading were left undone. See Figs. 26-31.

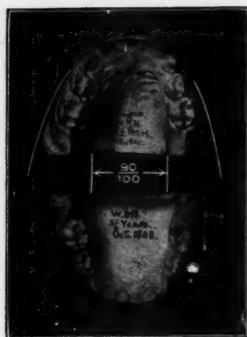


Fig. 32

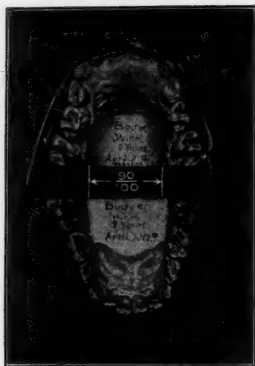


Fig. 33

Cases of narrow deciduous arches: showing the same mouths at intervals of 16 months to six years, and demonstrating a complete arrest in lateral development.

This arrest in development involves the nose, the face,

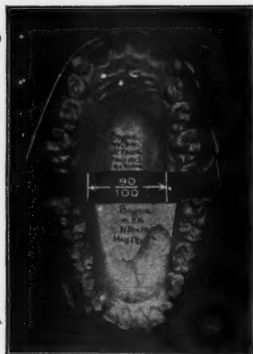


Fig. 34

and the various antra as well as the arches of the teeth, both temporary and permanent; and perhaps the whole body, as the enamel of the teeth in these cases is found to be defective, and the teeth liable to decay. See Figs. 32-41



Fig. 35

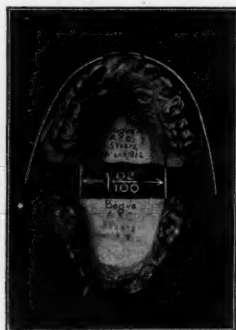


Fig. 36



Fig. 37



Fig. 38

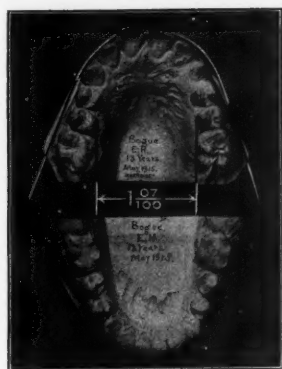


Fig. 39

Cases of arrested development similar to those on the opposite page, which see for description.

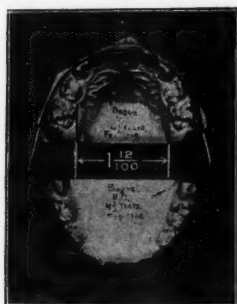


Fig. 40

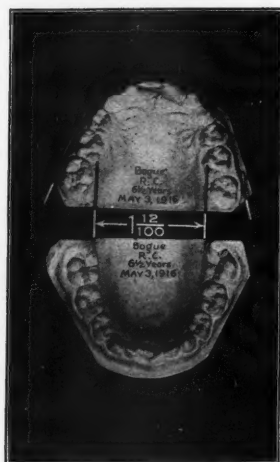


Fig. 41

when first seen, being considered impossible of self-rectification. See pages 692, 693. Expansion arches have therefore been placed upon them all and they have all been brought out to what is considered a normal width. Either the original fixtures or retaining wires have been left attached, generally to temporary molars, expecting that when those molars fall out at or about the tenth year of the child's life, there will be no further need for retention beyond what will be furnished by tongue, cheeks, and the proper articulation of the teeth with each other. The enlargement of these defective arches has in all cases been accomplished without pain save where some accident has occurred, and excepting some slight rectifications of articulation which may be required or some

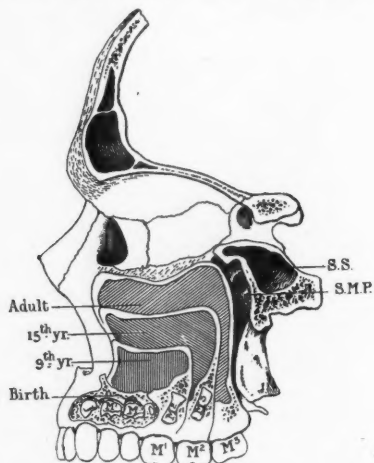


Fig. 42.—This drawing shows the positions and directions of antero-posterior and vertical growth in the upper maxillary from birth to adult age. It does not show, of course, lateral growth. Cut from "Dental Disease," page 22, by J. F. Colyer.

assistance in the eruption of impacted teeth, we may feel sure that room enough has been provided for the regular eruption of the permanent teeth.

The next group comprises a number of models taken at intervals of months or years between the first and last, all showing less than 28 mm. in width between the second temporary molars at the time the first impressions were taken, the three later ones showing six years between the first and last, and all exhibiting no trace of lateral growth during that length of time. See pages 694, 695. Seventy-nine out of the eighty best children's skulls at the Smithsonian Institution, Washington, D. C., taken from Indian children, show a greater breadth than the procurable models of living children accessible in Washington, New York, and Boston, and the dental arches of the Indian skulls at the

Smithsonian average considerably more than the models in my possession (ref. Hawley's Paper and *Cosmos*). I am indebted to J. F. Colyer's book "Dental Disease in Its Relation to General Medicine," for the illustration of a drawing by Arthur Keith, M.D., M.R.C.S., which illustrates the position of the developing molars, etc. See page 696.

In spreading the arches of temporary teeth the question naturally arises how far are we to spread? A simple and practical method is to utilize the Hawley adult arch.

We need to make wire arches after the Hawley diagrams. The Hawley diagrams were based on the measurements, made by Bonwill, of hundreds of cases of permanent teeth.

We need to know how more accurately to adapt and to place those wire arches on the temporary teeth in such position that they may expand these arches of temporary teeth to such an extent as to admit of and promote the growth and eruption of the permanent teeth in proper positions and proper relations with each other.

It has been already remarked that there must be a fairly definite relation, at least in normal cases between the widths of the temporary teeth, and the widths of the permanent teeth that are to follow and take their places.

Having had opportunity to measure something like fifty cases of temporary teeth and the permanent teeth of the same cases, it was found that the average difference between the widths of the permanent and the widths of the temporary teeth was $\frac{2}{100}$ of an inch.

As this average does not materially differ from measurements made by Dr. G. V. Black* and adopted by Dr. F. L. Stanton,† it has been used by us for several years past, awaiting a more accurate knowledge.

After many measurements of nearly normal temporary and permanent teeth of the same individual, Dr. T. S. Macknight has found that the Hawley adult arch may be used with quite accurate results; and it is done in this manner. To allow for the normal anterior growth, which measurements show, averages 3 mm., we draw a line straight across the occlusal ends of the Second Upper Temporary Molars, passing through the disto-palatal grooves, to the buccal sides of these teeth. This line cuts off about 3 mm. of the distal portions of the teeth.

The upper model is then cut into three pieces, along the lines of the **Y** shown in the illustration. The lateral portions, each having three teeth and the front portion the four incisors. See Figs. 43, 44, 45.

These pieces are then placed on a glass slab and the Hawley trans-

*G. V. Black's book "Descriptive Anatomy of the Human Teeth," 4th Edition.

†"Dental Engineering Arch Pre-determination." Dr. F. L. Stanton's paper.

(Text matter continued on page 699)

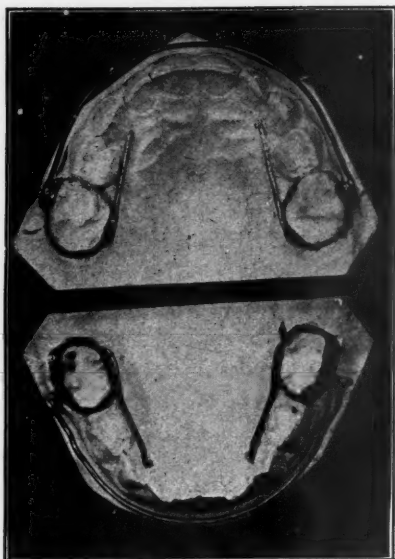


Fig. 43

Figure 43 shows the model with fixtures in place. The first arches are made before models are cut along the lines of the Y.

Figure 44 shows Upper and Lower models cut along the lines of the Y. The lateral portions each have cuspid and temporary molars. The front portion has the four incisors.



Fig. 44

parent chart placed over them. Then the side portions are moved outward until the marks on the chart representing the anterior surfaces of the two upper permanent molars lie over the lines drawn across the occlusal ends of the Second Upper Temporary Molars. Now the side portions are carefully adjusted, and the portion carrying the four incisor teeth is moved forward until the cutting edges and buccal cusps of all the teeth lie just under the black line on the chart, representing the adult arch. The three pieces of the upper model are then waxed to the slab and plaster poured into the spaces. This practically gives the size of the



Fig. 45—Pieces assembled and fixtures made after model has been spread to desired width

upper arch that is necessary for the permanent teeth of this mouth to erupt without crowding.

The lower model is cut in the same manner and articulated with the upper. Then the pieces are joined with plaster, the same as the upper. (See Fig. 45).

(To be continued)

CLOSED MOUTH IMPRESSIONS*

BY SAMUEL G. SUPPLEE, NEW YORK, N. Y.

EIGHTH PAPER

How often do we learn, after years of incomplete success, that we have overlooked some apparently trivial detail, only to find that it is of great importance.

When Mr. Supplee called this subject of muscle strain to my attention, some years ago, I did not understand it very well and it did not seem very important. It seemed like a minor detail upon which it was not worth while to spend much time.

But as I have watched dentures and denture making, I have come to realize that it is of the greatest importance, that many otherwise excellent dentures fail because the muscles were strained when the bite was taken, and that time spent securing a correct bite is very profitably invested.

I want to urge upon every one of you who wishes to render professional denture service the reading and rereading of this article until you understand that muscles are under what the author calls "muscle strain" when they are not relaxed and that the bite should be taken in such way and of such height as to avoid that strain. Only when dentures can maintain their working positions unopposed by strained muscles, can they exhibit a maximum of comfort and efficiency.—EDITOR.

In impression taking we have six classes of cases to consider:

- 1st. The full upper with all the lower teeth standing or the equivalent when there are one or more molars present on each side and some of the anteriors.
- 2nd. Full upper and partial lower where the molars or all the posteriors are missing.
- 3rd. Full lower with all the teeth present in the upper or the equivalent when one or more molars on each side and some of the anteriors are present.
- 4th. Full lower and partial upper.
- 5th. Full upper and lower.
- 6th. Partial upper and lower.

Each of the above classifications of cases for impressions requires a different technic to secure the best results. One principle of the utmost importance, which has been but little understood or appreciated, is common to all these cases, viz., elimination of muscle strain in bite taking. Its proper application will go far to secure a maximum of comfort and efficiency from the dentures, while lack of its application is very apt to cause failure in dentures which are otherwise faultless. After the baseplate impression has been taken and the occlusal plane has been established, **the biting strain must be equalized.**

*Continued from September issue.

A bite has generally been considered correct when the patient has not closed in a forward or lateral position, but it will be seen that the above mentioned principle carries the requirements of a correct bite much farther, and requires that the patient shall not only bite in the correct forward and lateral relations, but that the base plates shall be so shaped that the biting strain on both sides shall be equal.

This principle is of importance to dentists who use the regular wax bite plates, in the usual way, because, if the principle is properly applied, it will be unnecessary to grind the teeth for occlusion after the dentures are vulcanized and finished, which grinding is now often so extensive as to destroy the efficiency of the dentures.

This principle is of vital importance to dentists who seek to obtain a correctable impression, where if the bite is *not* equalized before attempting to correct the impression with the mouth closed under biting strain, every attempt to add to the buccal and labial margins or over the area covering the rear third of the vault, will impair the impression rather than improve it.

The application of this principle requires that the occlusal ridge of the trial plate shall be trimmed vertically, by the guidance of repeated openings and closing of the mouth until the pressure is approximately alike on both sides, when the jaws are closed in correct forward and lateral relations, although they should be $\frac{1}{8}$ too far apart when the occlusal surfaces are in contact.

The entire occlusal ridge must then be softened to a depth of $\frac{1}{8}$ of an inch or less in such a way that the surface will be very soft and quickly taper off to an under strata of hard material. The object is to have the opposing teeth or ridge on both sides pass through material of an equal consistency an equal distance to a solid underbody, which will set the muscles of both sides into a position characteristic of biting, and at the same time equalize the bearing on the tissue underlying the base plate.

The softening required to permit such biting can best be accomplished by using a modeling compound occlusal surface or biting block and suspending it $\frac{1}{8}$ of an inch deep in the surface of water 160° temperature for one minute.

In other words, **if the bite is not absolutely correct and the muscle and tissue strain equalized you cannot complete the impression** to a point where it will withstand the requirements of the finished denture.

Many dentists have not realized the importance of this apparently minor detail, and as a result their dentures may apparently fit well yet their patients cannot use the dentures efficiently until they have worn them for several weeks, during which time the muscles and tissues may adapt themselves to existing conditions.

MUSCLE STRAIN

The axis of the jaw, instead of operating from a given point changes in position as the mandible closes and opens. The position of the axis is regulated by tension of the muscles controlling the particular direction in which strain is brought to bear. This is evident to any one who has heard or read Dr. Clapp's lecture on the "Movable Mandible." These muscles draw (comparatively speaking) in three primary directions: viz., forward, backward, and upward from a common centre, and each side of the mandible acts independently of the other. Hence you have at least six different motions to deal with in taking a bite, and the only time the working of these muscles is in perfect unison and equal, is when there is nothing to strain them.

When biting, the position of the axis or rotation point is regulated by the hardness of the bite material and the distance the jaws are apart when the pressure is brought to bear. Hence, when wax or any other material of unequal thickness or hardness on the two sides is placed in the bicuspid and molar regions, the muscles on that side of the jaw which strikes first and is forced to travel the greater distance will be strained in the effort to carry the teeth or the bite ridge through the opposing material to a point where the pressure will be equal on both sides. It is probable that in spite of the effort of the muscles to carry opposing ridges up to a point where the pressure is equal on both sides, the jaw will not maintain a level position, and the result will be an incorrect bite, with the jaws more widely separated on one side than on the other, even though the front teeth may be in their correct relative position. In other words the lower jaw will be slightly tilted. **In edentulous cases there is always the additional possibility of the base plate being shifted by unequal pressure on the tissues overlying the vault and ridges.**

HOW TO DETECT MUSCLE STRAIN OR SHIFTED BASE PLATE

It is not always possible to discover this when the teeth are set up for trial on wax base plates or other materials that do not have sufficient rigidity or fit to hold them as firmly in place as the finished dentures; and when the jaws are brought together on a trial plate the side striking first naturally forces the base plate to one side or makes it drop on the opposite side, so that the teeth appear in normal occlusion although they may not be under equal strain.

A good way to test the plates at this time is to place a thin match stick or an instrument between the bicuspid on one side and have the patient close lightly and note whether the teeth are the same distance apart on the opposite side. Now, shift the instrument or match stick to

the opposite side and you will no doubt be surprised how many times there is a difference in the relations of the two sides which will spell trouble in the finished dentures.

If this inequality of pressure is not discovered until the plates are finished and placed in the mouth firmly and in the proper position, you will discover for the first time when it is too late that the teeth strike only on one side or in the region of the molars. The other side or the fronts will be open a distance varying from the thickness of a piece of paper to $\frac{1}{8}$ of an inch or more, depending entirely upon the amount of muscle strain or shifting of the plate that existed in the original taking of the bite.

AN ILLUSTRATION

To fully appreciate what I mean by muscle strain, bring your teeth firmly together in correct opposition and then try to bite harder on one side than on the other, and note that one side may just be touching when the other side is exerting many pounds' pressure per square inch. Now place three thicknesses of paper on one side in the molar region, and by exerting pressure you can make your teeth touch on the opposite side in the region of the last molars yet your centrals will not touch. Now place six thicknesses of paper on one side and close firmly and note that all are held firmly.

Place three or more thicknesses of paper between the incisors and cuspids, and you will find it difficult to make the molars touch without shifting the mandible forward.

Now just consider how many times this condition is multiplied when taking a bite on yielding tissue using material that will respond to different degrees of pressure.

It is absolutely essential that the bite should be taken on the back of our impression or by use of a perfect fitting base plate. It must be right and without strain.

HOW TO ELIMINATE STRAIN

To secure a bite without strain, the material into which the patient makes the impression of the opposing teeth or trial plate must be so extremely soft that no force is required until the jaws are in the relative positions they will occupy.

Both sides should strike at the same time and pass an equal distance into the material of an equal consistency. If anything, the front teeth or the front of the base plate should strike first.

If the front teeth strike first without a great deal of pressure there will be less tendency for the patient to protrude the mandible.

In many cases, the muscles of the cheek and lips and the congestion caused by the ramus passing close to the tuberosity of the upper jaw have a great deal to do with the position of the baseplate impression or trial plate but this phase will be taken up later.

During mastication you cannot exert the full power of which you are capable, until your teeth are nearly together. This distance varies, but the average is from $\frac{1}{8}$ to $\frac{1}{4}$ of an inch, and depends upon whether the patient is in the habit of bolting his food, carefully grinding it, or is in the habit of chewing more on one side than on the other.

In other words, the muscular development will regulate the distance a jaw can be muscle strained, but this muscle strain must emanate from a common centre and travel a given distance and in our denture this is of primary importance, establishing the plane of occlusion.

TO ESTABLISH THE PLANE OF OCCLUSION

In mastication, the lips are generally closed and thus assist in keeping the jaw in its farthest retruded position; and if the bolus of food is only on one side of the mouth, the condyle on that side will no doubt be drawn slightly downward in the fossa and the jaws will be in a tilted position. If there is a bolus of food on both sides, one of which is smaller than the other, there will also be a strain.

This makes it self-evident that if you put a wax bite or any other material into the mouth, and it strikes on one side first, or the material is harder on one side than on the other, you will secure a strained bite.

The rest position is generally assumed when the lips are just lightly touching, and the teeth are then as a rule from $\frac{1}{16}$ to $\frac{3}{16}$ of an inch apart. When the lips are firmly together, the teeth are generally just touching.

The rest position is the position from which all strain emanates, and is the position that must first be established. **By having the teeth pass from this point through a soft surface, an equal distance of not more than $\frac{1}{8}$ inch to a solid underbody that is of uniform consistency,** you will obtain the correct position of the denture, as well as establish the position for the occluding teeth under equal strain which will truly be "a correct bite" and will add to the efficiency of the denture in masticating.

One of the first principles of getting a true and unstrained condition is to get the patient's mind entirely away from anything that suggests **biting** or using force; hence I always refrain from using the word and have the material so soft that no force has to be used to pass into it.

When the base plate with the soft roll of compound is inserted into the mouth, the patient is instructed to bring the lips together till they just touch lightly, and hold the position for a few minutes. This gives the compound a chance to set and automatically gives you the rest

position of the jaw, and assures you the condyle is fully back in the fossa.

As there is always a space of $\frac{1}{16}$ to $\frac{1}{8}$ of an inch difference between the biting position and the rest position, the steps necessary to secure the correct position of the mandible for biting purposes will be described in the next issue under the head of the Correct Bite.

(To be continued.)

PROGRESSIVE PROSTHETIC CLINIC*

ARRANGED IN FIVE DIVISIONS

STEP No. 4. BY H. C. WERTS

At this time it will be necessary to select an articulator and in order to intelligently do so, we will review some of the more important movements of the mandible that have to do with mastication.

When a patient opens the mouth, the condyles move forward and downward, the ramus downward and backward. When the mandible moves laterally, the condyle of the opposite side moves downward, forward and inward, the condyle of the side to which the mandible moves is governed by the location of the rotation point of that side.

After examining the different articulators so far constructed, we find all except the Gysi articulators rotate from the condyle. It would be quite impossible to imitate any of the movements of the mandible on an articulator that rotates from the condyle, when the mandible rotates from a point half way between a line drawn through the occlusion and the condyle and a little posterior to the condyle.

There are two articulators constructed after the teachings of Prof. Gysi, the Simplex and Adaptable. The Simplex was constructed to meet the requirements of the average case, the Adaptable was constructed to meet the requirements of the individual case; for that reason we will use it. The next consideration is trial plates. Where compound has been used in taking the impression, we can in some cases use them as trial plates. There are several base plate materials on the market for use in making trial plates. The best trial plates to my knowledge are those recommended by Dr. Geo. Wilson of Cleveland, Ohio, a vulcanite base building the ridges with wax or compound. To locate the line of occlusion, we draw a line on the face from the lowest point of the external auditory meatus to the lowest point of the wing of the nose. To build

*Given at the Pennsylvania State Dental Society, June, 1916.

ridges on the trial plate, a little compound is heated, shaped into a roll, placed on the trial plate over the natural ridge, placed in the mouth, the occlusal former pressed to the occlusal surface of the ridge, the handle of the former below but parallel with the line drawn on the face, the length of the ridge being governed by the length of the upper lip. Upper trial plate removed from mouth, and trimmed to contour and placed in mouth. Ridge built on lower base, compound very soft, placed in mouth, patient instructed to bring the lips together and swallow, in so doing they automatically establish the proper height of bite. When the lips are at rest the teeth are brought together. The lower trial plate is removed, excess trimmed, returned to mouth; high and low lip line, rest line, median line and corners of the mouth are marked to assist in selecting and setting up the teeth. Trial plates removed, horseshoe plate placed in position on occlusal surface of lower trial plate, placed in mouth, occlusal surface of ridge of upper trial plate softened to depth of about $\frac{1}{8}$ of an inch, placed in mouth and patient instructed to close, to compensate for the thickness of the horseshoe plate and equalize the bearing on the trial plates. Upper trial plate removed, excess trimmed, placed in mouth. The head of the condyle is located $\frac{1}{2}$ -inch in front of the tragus of the ear on a line to the corner of the eye, the location marked on the face. Condyle path register placed in position on the prongs of the horseshoe plate. The points of the vertical pencils are placed opposite the heads of the condyles and $\frac{1}{2}$ -inch from the face. The lateral path register is firmly held over the patient's head, the ground glass resting on the points of the pencils, the operator gives the path register a lateral motion to designate the starting point, the patient is instructed to move the mandible laterally, the pencils mark on the ground glass the inward inclination of the condyle as it glides over the fossa in its lateral excursion.

The lateral path register is laid on a piece of white paper, a line drawn across the pieces of ground glass at the starting point; this is the base line. Right angles are drawn to the base line at the starting point, and the mark made by the patient extended; by the use of the degree meter the inclination is determined and the articulator set accordingly. The points of the horizontal pencils are placed opposite the heads of the condyles, one pencil is moved about $\frac{1}{2}$ -inch from the face, that it will not interfere while registering the movements of the opposite side. A visiting card is placed against the face, the lower border of which is parallel with the arm of the condyle path register, the ratchet is moved, placing the pencil against the card, the patient instructed to move the mandible laterally, registering on the card the downward and forward movement of the condyle as it glides over the fossa in its lateral excursion. This is repeated on the opposite side. By the use of the degree meter, the inclination is ascertained and

articulator set accordingly. The horizontal pencils are set opposite the marks locating the condyles, the condyle path register is removed and used in the same manner as the snow face bow in mounting the models on the articulator. The trial plates are removed, the anterior portion of the horseshoe plate is covered with carbonized wax. The incisor path register is attached to the anterior labial portion of the upper trial plate, in such a manner that the pin of the incisor path register will extend to the carbonized surface of the horseshoe plate. The trial plates are placed in the mouth, the pin of the incisor path register is released that it may press into the carbonized wax on the horseshoe plate. The patient is instructed to move the mandible laterally until the incisor pattern is formed with a definite angle at the extreme anterior. Have the patient close with the pin of the incisor path register in the anterior angle of the incisor pattern. Lock the trial plates together with a little soft compound that they may be placed in proper relation out of the mouth. With the aid of the condyle path register as a face bow the trial plates are mounted on the articulator. After the plaster sets, the trial plates are separated, and the horizontal rotation points are moved to such position that the pin of the incisor path register will follow the outline of the incisor pattern. We now have an articulator that reproduces the more important mandibular movements of that individual that have to do with mastication.

STEP NO. 5. BY F. A. GALLAGHER

The models having been mounted on the articulator, trial plates formed to proper contour, high and low lip line, median line, rest line and corners of the mouth marked to assist in proper selecting of the teeth. As a patient can exert only from 18 to 30 pounds' pressure on a set of artificial substitutes, or from 7 to 10 times less pressure than can be exerted on the natural teeth, it clearly follows that artificial teeth made after the pattern of natural teeth would have from 7 to 10 times less efficiency than the natural ones, or in proportion to the decreased amount of force exerted. For that reason Prof. Alfred Gysi of Zurich, Switzerland, has constructed artificial teeth applying certain mechanical and engineering principles.

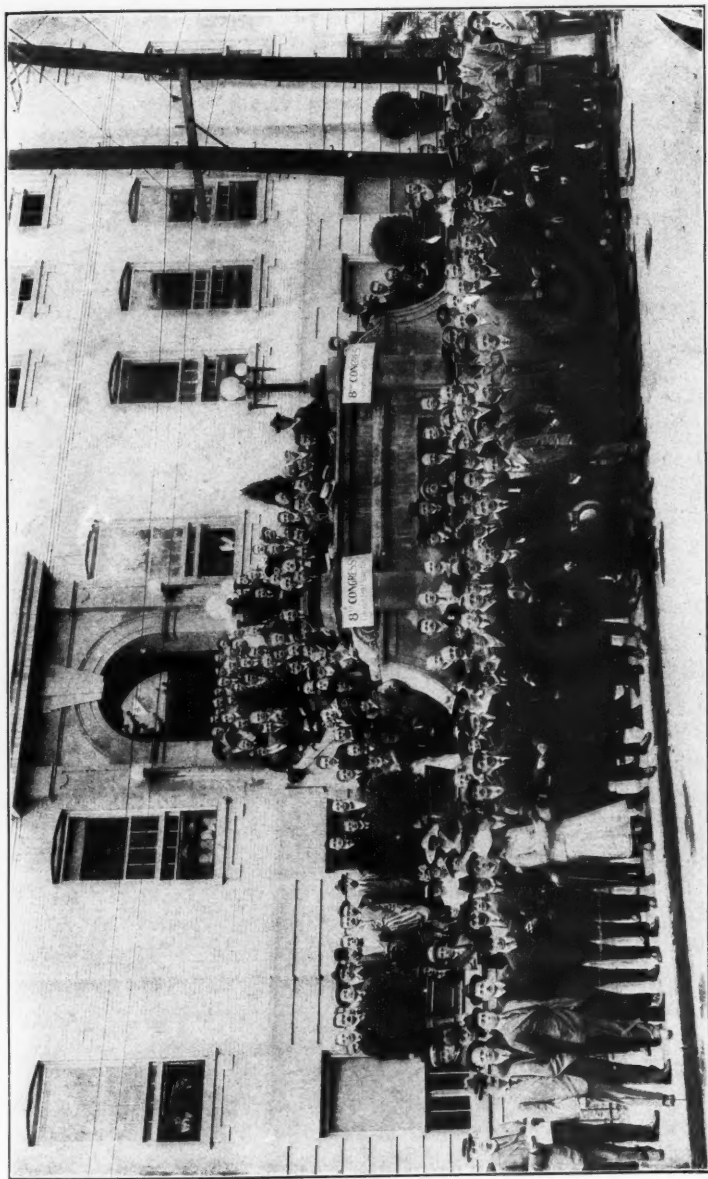
A wedge having an angle of 10 degrees would pierce a solid substance with less force than a wedge having an angle of 30 degrees. And if a wedge entered a solid substance with an inclined gliding motion it would enter with much less force exerted than the same wedge with a straight downward motion. Therefore, in place of having four or five blunt cusps on a molar, Prof. Gysi carved teeth with a series of ridges and grooves on the occlusal surface, or in other words small wedges working upon each other. We will get the greatest efficiency with the least amount of force

exerted by using Trubyte teeth. The length of the anterior teeth should be the distance from the line of occlusion to the high lip line. The combined width of the six anteriors should correspond to the space between the markings locating the corners of the mouth, the width of the posteriors should be governed by the space between the corner of the mouth and tuberosity of the maxilla. The general contour of the teeth should be selected according to the classification of Dr. J. Leon Williams of New York. The square face or its modification requires a tooth of Class I. The tapering face of Class II. The ovoid face Class III. Having selected the proper size and shape of tooth we are now prepared to place them in position. Sufficient of the ridge of the upper trial plate is removed from the median line to the region of the bicuspid. The central, lateral and cuspid of that side are placed in position; this is repeated in the opposite side being careful to have the teeth at proper inclination as cut, and restore the contour. Viewing the teeth from the labial and buccal aspect, the roots of the centrals should be parallel, the lateral and cuspid diverge from the median line, the lateral a little more than the cuspid. The ridge is removed from the posterior portion of the trial plates, the bicuspid and molars placed in position, the roots of the bicuspid should be parallel with the centrals, the roots of the molars should converge toward the median line, the second molar a little more than the first. The upper plate is lined up by using a parallelogram, the central, cuspid, buccal cusp of the first bicuspid, both cusps of the second bicuspid and lingual cusp if the first molar are on a plane, the lateral, lingual cusp of the first bicuspid, buccal cusps of the molars are short of the plane. The disto-buccal cusp of the molars are a little shorter than the mesio-buccal cusps, which gives the root its anterior inclination. The teeth having been tried in the mouth and found to be O. K. they are placed on the articulator, the incisor guide pin is raised, a mixture of glycerine and carborundum is placed on the occlusal surfaces of the teeth, the articulator is given a lateral motion, grinding facets on the ridges of the teeth, the food being cut and ground between the facets. A maximum of efficiency with a minimum of force.

The different steps of the clinic were made clear by models, and enlarged cuts from "Prosthetic Articulation."

VALUE OF OYSTERS

Stutzer maintains that it takes fourteen oysters to contain as much nourishment as one egg, and 223 to equal a pound of beef. Their cost is triple that of beef.—*New York Medical Journal*.



Meeting of the Canadian Dental Association, Montreal, September 12-15, 1916

ARE STATE DENTAL LAWS REASONABLE?

NAME OF AUTHOR KNOWN BUT WITHHELD

The question of the right to move when movement is desired, and to practise one's profession in any state or territory will recur in different forms until some intelligent and equitable solution is reached. I'm glad it will, and I hope the agitation grows so great that it cannot be ignored.

It is preposterous to suppose that the dentist who is competent to serve the public of Maine is not competent to serve the public of California equally well.

It is unfair that he who serves well in Maine shall be unable to move to California if sunshine and roses appeal to him more than conditions in Maine. We are Prisoners of Prejudice.

This article deals with one phase of the immense amount of humbug which is talked about this subject.—EDITOR.

The experience set forth below may or may not suggest an answer to the above question, but to the writer it proved very convincingly that something is wrong with the laws or the way they are administered.

In 1903 the writer was graduated from a reputable dental college situated in Ohio. His diploma was registered, and he received a certificate of registration in Ohio without an examination, the present law demanding examinations not being in effect.

About a year later, after having practised in Ohio in the interim, he received an offer from a dentist in New York State which drew him East.

Being ignorant of the New York law and being more interested in earning a living than worrying over the conditions thereof, he worked along with never a fear, simply assuming that as long as he was registered in Ohio and was working under a registered New York dentist, he was not a subject for legal action.

After more than three years of blissful ignorance, one year of which had been spent as working assistant and partner to a superannuated dentist in the up-state district, he decided to buy out his partner and assume full control.

As this involved considerable money and he wished to avoid any possible future difficulty, he took steps to register and was informed that it would be necessary to take an examination. However, before he would be eligible to the examination it would be necessary to provide certain credentials setting forth the extent of his preliminary education, and as the principal requirement was a high school or academic diploma, neither of which he possessed, his plans were blocked.

His only hope at that time was in a clause in the law which stated the requirements as being, a *certain number* of "Regents'" counts as evidence of the successful attendance at high school or academy or *its equivalent*.

Just what use was ever made of the clause was never learned by the writer, much as he endeavored to invoke the powers that be, to apply it in his case, as he thought he had grounds for believing his preliminary training at least equivalent to the training secured in the average high school or academy, judging from the products of these institutions of learning.

At the time when he would have naturally entered high school, financial stringency made it necessary for him to go to work, and the next four years he spent in a small daily newspaper office in various capacities, from "printer's devil" to reporter and even taking over some of the work of the city editor at times.

The training thus received, supplemented by cultured home surroundings and a natural love for good reading, was sufficient to allow him to associate with people of education and refinement, without suffering in comparison.

Upon entering dental college the subject of preliminary education came up for the first time and it was stated that said education *should* be *equivalent* to three years in high school and he was "conditioned" in his "preliminaries" with the understanding that it could be made up during his first year in college.

A few months demonstrated that so far as fitting him for the work in the dental school, his work was above the average of those trained in high school, normal school and those holding teachers' certificates, and he rebelled against the necessity of taking a high school course because the training so gained was admittedly a preparation for his professional studies and future practice as a professional man, and the record so far made in competition with his fellows who possessed the necessary attainments, proved beyond a reasonable doubt that such training and mental equipment as he possessed was at least *equivalent* to the requirements stated.

The college authorities, after due consideration waived the point and allowed him to finish his course, graduating him in due time with a good record for consistent work. At the time of his introduction to New York dental law, the foregoing facts were presented to a man high in the council of the Board of Regents, and the facts were supplemented by a record of practice in a small town in New York State, where any marked failure as a practitioner both as to professional and social qualities as well as moral standing would be generally known, and it so happened that the official mentioned was aware of the record made in New York State and admitted that he had heard nothing but commendation of the young man as a dentist.

Just prior to the interview with the official mentioned, the writer sought information from a member of the New York State Board of

Dental Examiners practising in the same Dental District, and was informed that if he could "study up" on high school subjects and pass his examinations entitling him to the required number of Regents' counts, he would then be admitted to the dental examination and would no doubt have no trouble in securing his license, as the examiner had heard of him as "a good dentist but unlicensed, and should be whipped into line."

It was to secure information regarding the subjects necessary to be passed, that brought the writer into communication with the officer in the Department of Education. When the request for information was made and it was explained that the writer desired to pass his Regents' examination to secure academic counts prior to taking the dental examination, he was very politely informed that while his intentions were very laudable they would not attain the end which he so much desired, inasmuch as the law specifically stated that the necessary number of Regents' counts must be secured **at least two years prior to the date of applicant's graduation from dental college**, the counts being evidence of **preliminary education** and **anything acquired subsequent to graduation from dental college** could not satisfy the law, and **would not admit applicant to the professional examination.**

When asked to state just what would be necessary for the writer to do in order to qualify for the dental examination with a view to securing a license to practise in New York State, the official said there were two courses open to him: He could secure the Regents' counts necessary by passing the required examinations and then enter dental college for two years (even though he was already a graduate), after which he would be allowed to take the professional examination; or he could return to Ohio, practice for 6 consecutive years "legitimately" (which means not be an advertiser), and then return and appear before a member of the State Board of Dental Examiners and pass a practical examination. The fact that the preliminary educational requirement was waived in the latter alternative was because it was assumed that a man in continuous practice in one locality for six years, must possess the necessary attainments to insure his proficiency in the practice of dentistry. While the strict interpretation of the law does not provide for this waiver, it was understood to be a concession in this case, or in other words a lack of strict enforcement.

As both of the conditions laid down were prohibitive at the time, the writer gave up the proposed purchase of his partner's interests, closed out his own holdings and returned to Albany, taking a position as assistant operator with another licensed dentist, which was contrary to "law," but supplied the requirements of another law—self-preservation.

At no time during the year and more that he was employed in Albany

was there any effort to interfere with him, in fact during the entire time of his sojourn in New York State (about five years) there was no notice to quit, nor any other means taken to limit his practice, illegal though it was.

An offer came from the dental college in Ohio, of which he was a graduate requesting him to become a member of its faculty. This offer was accepted as a means of returning to the state where his registration was recognized and his practice legal, and while employed as professor in the college it was his duty and pleasure to lecture and direct the professional education of several men who were from New York and other Eastern states, having similar laws, who returned to their native states after graduation and were admitted to the examinations and to practice, though the writer who had a large share in their preparation was pronounced "unfit," though **untried**.

While most fair-minded men will freely admit that preliminary education is necessary and highly desirable to all who enter upon a life of professional endeavor or any other kind for that matter, still, the trouble with most of those who interpret the laws, is an utter disregard of all education or mental training which has not been acquired by certain prescribed methods; in fact a scrap of paper is passed on providing it sets forth that a certain individual has completed a certain course of study in an accredited institution, while a man or a woman without the documentary evidence, but with considerably more mental training, information and culture than the possessor of the diploma is rejected, without any investigation as to his or her mental, moral or social worth.

While it might, so far as "preliminary" attainments go, be difficult to tell by examination after dental graduation what sort of a foundation the person had for professional training, the writer would venture to say that the results would be quite as confusing if the conditions were reversed and the high school graduate was examined along similar lines to ascertain what he had retained, or what evidences of preliminary mental training aside from his diploma he could show after dental graduation.

The clause "or its equivalent" referred to earlier could be used by intelligent and scrupulous officials to remedy many instances of oppressive legal injustice, and if there is danger of the too liberal use of the clause it were better to change the official who misuses it than to reject honest men and women who might better grace the profession of dentistry in New York than many who are in legal practice, "Passed by the Board of Censors," yet whose methods of practice and ideas of decency are an offense to every honest man in the profession.

The man or woman who has made of teaching a profession, is naturally the one chosen to direct or supervise all educational activities in a state, and it is reasonable to suppose that such a choice is right. How-

ever, the professional teacher is often blind to any mental attainment which lacks the official stamp, and too apt to accept the absence of diplomas and degrees as an evidence of ignorance, when a broad-minded and intelligent person could with sufficient accuracy determine cases where it was quite evident that the individuals examined possessed "the equivalent" of mental training usually found in the average high school graduate.

The principal object of schooling is to so train the mind of the individual that he will be capable of reasoning and of independent thought, and through appeal to reason awaken appreciation of the good, the just, and the beautiful.

It is not intended that the pupil's mind should retain countless rules and definitions, details and systems, any more than he would be expected to go about his daily tasks swinging his arms and body in the various ways learned in the gymnasium.

Just as the gymnasium has through a series of exercises, fitted the individual's body for greater physical exertion, so does the school or university, whether it be a chartered institution or the great "University of Hard Knocks" prepare its students through mental gymnastics, not supposing that every exercise will be constantly used through life, and the mind be only a storehouse for statistics, but rather, that the mental development attained through exercises and experience will fit the individual to progress after the means of the development had been forgotten.

There has been advanced from time to time, theories for the correction of the injustice which the present enforcement of the law inflicts, but usually it has included a scheme of "grading down" rather than "grading up," and has naturally met with serious objections on the part of all men who had the standing of the profession at heart, as well as those others who through accident of birth or circumstances, were enjoying "protection" from fancied competition.

While the laws governing the practice of dentistry are supposed to be for the protection of the public, as a matter of common knowledge they really serve as a protection for the dentists who are already in practice.

One proof of this statement is found in the opposition to reciprocal interchange of licenses between states, which is particularly strong in some of our Southern and Western states; it being claimed that on account of climatic conditions more Northern and Eastern dentists would avail themselves of the reciprocal relations and thereby make the provision inequitable in effect.

On the other hand we find very stringent regulations in most of the Eastern states, making the conditions of registration for practicing dentists from other states particularly difficult of fulfillment, and instead of finding a friendly and fair attitude there is usually an antagonistic air

which says as plain as words: "Keep off my preserves," or "Why don't you stay where you came from." *That* question is more often put into words and there are many answers, most of them perfectly justifying the proposed change of location.

However, granting that curiosity is natural and that it may be well to satisfy it when not impertinent, we wonder if it is a sign of solicitude for the dear public, or a disposition to discourage "Immigration."

Just why the profession should have these protective laws or rather be allowed to administer them in such a way as to constitute protection, when all other lines of business having to do with the rendering of service are unprotected from the competition of resident competitors, we do not understand. Dentistry on its business side is subject to the same laws of trade that govern the commercial world, and should neither have nor expect any exemption from them.

As for the public, it has shown itself perfectly capable of discrimination, and with dental examinations in the public schools, and a general awakening to the needs of dentistry and the differences in quality of service, it may be trusted to eliminate the unfit, and any danger of the crowding of dentists in certain sections of the country will be very small, particularly when it is considered that a crowded section would no longer be a desirable section and therefore any movement to that part would cease automatically.

It is the writer's belief, based on the history of all migratory movements, that after the interstate exchange of licenses went into effect there would be considerable changing about for a time, but as soon as those who now desire to change were located, conditions would settle down and there would be little more moving about than at present, and that movement would be found quite as carefully considered as it is at present among business men.

There are no laws prohibiting an Ohio merchant from moving his business to New York, yet we find that Ohio is still well supplied with merchants in every line, in fact you might get testimony from some of them that would prove *their* line was *crowded*.

In the writer's opinion the laws are, for the most part, all right; but there is much to be desired in the manner and spirit in which they are administered.

A diploma from a high school, submitted by mail, will receive more consideration than an intelligent gentleman without one, appearing in person, and if any proof of the failure of the strict enforcement of the graded high school requirement be needed, the number of almost illiterate dentists and also the large number of dentists whose work is a positive menace to the public (whom the law is designed to protect) should supply

it, yet these men are registered and duly accredited, which fact leads one at times to feel that if these men are qualified, pray deliver us from such qualifications.

It is far from the purpose of this article to encourage a lowering of standards with the consequent influx of "undesirables" into the profession, but it does advocate a broader, more liberal and withal, more intelligent interpretation of the existing laws and a free interchange of licenses between all states and possessions of the United States, based on reasonable and equitable regulation. The old bug-a-boo of "states rights" has thus far intervened to prevent any serious movement to put the question of dental regulation where it belongs—under Federal supervision.

With all graduates appearing before a Federal Board of Dental Examiners, those who were successful could locate where they pleased, only being required to register their certificate number, name and proposed residence in the state where they locate, paying a nominal fee, and should they desire to move to another state, another registration would be required but no further examination.

Annual registration would solve the question of keeping "tab" on dentists engaged in practice, and Federal efficiency would do more to put a stop to real violations of the dental law than any state regulations so far known.

If the rank and file of the dental profession could make the dental laws, there would be universal interchange of license, and a competent practitioner, registered in any state could go to any other state, without having to pass examinations in subjects which had been forgotten as soon as the need for them had been fulfilled.

The only way in which this much desired change will be brought about is through agitation and active interest in dental laws, on the part of all dentists, not leaving them to a few men, who, ridden by ambition, seek only their own aggrandizement, and being secure in their own positions, would exclude others from the privileges which they enjoy.

LOOMIS P. HASKELL DEAD

Just as the DIGEST was going to press we received the sad news of the death of Dr. Haskell.

He led a useful life and his loss will be very deeply felt by his many friends.



PASSY (Yonne)
Le Château
(Vue prise de la première
Porte d'entrée), aujourd'hui Hôpital temporaire, n° 32
(Fondation Fitzgerald)

Château de Passy,
September 13, 1916.

MY DEAR DR. CLAPP:

You will perhaps be interested to know that I have had the opportunity to organize a department of Oral and Dental Surgery in this splendid hospital.

Within sound of the guns of Verdun have had the experience of resecting roots and filling root canals after the most up-to-date technic. My department takes care of everything connected with the oral cavity from stopping a toothache to curetting out a maxillary sinus.

The day is divided into two sessions, the morning from 9 to 12 for the surgical work and the afternoon from 1 to 5 for the operating work.

Have the most convenient and best equipped room in the hospital for my operating room. Electric lights, hot and cold running water, sterilizers, enameled tables, enameled cabinet for my surgical instruments, electric all cord engine, hydraulic chair, tile floor, and a window about five by twelve feet.

The main building of the hospital is a famous château whose interior has been remodeled to meet the requirements of a French Military Hospital. It has steam heat, electric light, hot and cold running water. We have our own electric lighting plant, water supply and storage system. We have room for 165 *grands blessés* or the most seriously wounded.

Major Ford, U. S. A., who has visited a great many hospitals in France, including many British ones, said our hospital has the finest organization he has seen.

Am enclosing a photograph of the hospital.

Fraternally yours,

ALONZO MILTON NODINE.

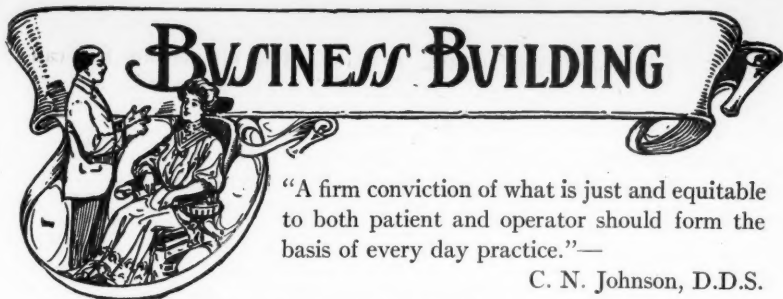
LIST OF DUPLICATES OF DENTAL PUBLICATIONS AT VANDERBILT UNIVERSITY

LIBRARY OF DENTAL DEPARTMENT

The Librarian of The Dental Department of Vanderbilt University announces the following duplicates, which may be purchased by anyone desiring them at ten or fifteen cents per copy according to the date and condition of the journal.

It is impossible to give an itemized list and it will be necessary to write P. C. Hedges, Librarian, Vanderbilt University, Nashville, Tenn., and state what you may require. The journals listed:

American Dental Journal	1903-1910 inclusive	
American Journal of Dental Sciences	1868-1876	"
Archives of Dentistry	1884-1891	"
Dental Cosmos (daily)	Aug. 14th-19th, 1893	"
Dental Cosmos	1859-1912	"
Dental Digest	1895-1912	"
Dental Brief (Welch's Monthly)	1897-1898	
Dental Brief	1899-1912	"
Dental Office Laboratory	1891-1898	"
Dental Record	1891-1909	"
Dental Register	1852-1912	"
Dental Review	1887-1912	"
Dental Summary	1902-1912	"
Dominion Dental Journal	1893-1912	"
Items of Interest	1884-1912	"
Independent Practitioner (changed to) International Dental Journal	1880-1905	"
Ohio Dental Journal	1881-1902	"
Oral Hygiene	1911-1912	
Pacific Dental Journal	1891-1897	"
Pacific Dental Gazette	1902-1912	"
Southern Dental Journal	1882-1900	"
Western Dental Journal	1888-1909	"



"A firm conviction of what is just and equitable to both patient and operator should form the basis of every day practice."—

C. N. Johnson, D.D.S.

PROFESSIONAL DENTURE SERVICE—PROFESSIONAL DENTURE FEES

BY I. J. DRESCH, TOLEDO, OHIO

I have come here to-day, not merely to try to show you a few of the newer methods of denture construction, but primarily to point a way toward more profitable fees for dentures.

It is needless for me to say that the majority of dentists are dissatisfied with their denture fees, and it may also be said that a great many patients are dissatisfied with their dentures. It is quite probable that the fee received by the dentist is unprofitable or at least inadequate and it is also quite possible that the service received by the patient does not warrant a better fee.

A very prominent dentist has asserted that 95 per cent. of the dentures made to-day are no better, if equal, to those made thirty years ago. If this is a fact, and I think the majority of you will agree that it is, when we consider the improved methods, appliances and materials, which have made it possible for the dentist of to-day, to render denture service to which that of thirty years ago dare not compare, it would seem that present denture fees are all the dentist is entitled to. On the other hand, able, conscientious dentists have told me that well to do people absolutely refuse to pay more than the old customary fees for dentures, regardless of the service. Then again I know a dentist who received \$60 from servant girls for constructing full dentures. It would seem, therefore, that the fault lies with the dentist's inability to properly present denture service to the patient. It certainly cannot be said that the patient will not pay for service. Americans are noted the world over for being a people who demand service and who are willing to pay for it. There never was another people who made such an effort to render service or to secure it.

I know a man versed in over fifty languages, he can translate more than thirty, and he can't earn a dollar a day; I know the most successful dental salesman in the state of Ohio and he doesn't know a tuberosity from a M. O. D. cavity; I know one hundred skilled dentists and ninety-

five of them cannot sell shoestrings. And before his denture fees can be made more profitable the dentist must learn how to render and sell the maximum in denture service.

Most dentists take orders, very few sell their services. To illustrate: a friend of mine is an automobile salesman; talking of his work one day he said, "My work is easy, I don't make sales so much as I take orders. Why, doctors call up on the phone and order a new car." He works at a Ford agency. Now doctors, can you imagine a physician calling up over the phone and ordering a new Packard? No indeed, Packards have to be sold. It takes salesmanship to sell Packards. Most dentists to-day take orders for Fords, and render minimum service at minimum fees, what you want to do is to make sales of Packards and render maximum service at maximum fees. Before you can sell maximum denture service you must whole-heartedly believe in it. You must be enthusiastic about it, you must be able to render that service, you must know that the patient should have that service, and you should know that you know, that you know it.

In a few moments I shall go through the procedure of scientific impression taking, bite taking, restoring facial expression and anatomical articulation. These new methods in themselves are the greatest sales argument any dentist can use in selling denture service at profitable fees. Can you imagine the contrast between an ordinary plaster impression and one taken in modelling compound, muscle-trimmed, and with the mouth closed. Can you imagine the difference between a mush or biscuit bite and a baseplate bite that is carved for proper length of the teeth, and for fullness to restore lost facial expression? Can you imagine the contrast between teeth that merely occlude and allow only central occlusion and squashing action, with those that articulate, which, brought together at any angle, will cut, tear, chop, and in short, will really masticate food with half the stress that is required for ordinary squashing action of teeth made to merely occlude? These things are noticed by the patient, and scientific denture work will invariably gain the patient's respect and confidence; and when you gain the patient's confidence, you have the combination to his safe.

SPITZER BLDG.

VASELINE AS AN AID IN SWAGING SHELL CROWNS

In making a shell for a crown, the gold disk is dipped in vaseline. In making a canine crown, a B. B. shot is dropped into the disk the last two times when swaging on the swaging plate in order to start the shell toward a conical form. If a metal die is used as in the Steele outfit, the shell is always coated with vaseline after annealing, saving time and trouble in swaging the crown.—*Dental Topics*.

COSTS OF CONDUCTING DENTAL PRACTICE

Dentistry on its business side is subject to the same general principles that govern all forms of business.

There is the investment and the overhead expense, which should include refunding and depreciation charges as well as rent, heat, light, phone, insurance, supplies, help, dental society dues, magazines and all other charges against the practice.

If a dentist meets all of these expenses and no more he is working at "cost," and receives no remuneration for his knowledge and skill.

It is manifest that he must charge his patient an amount sufficient to include the actual "costs" of performing the operation, as well as payment for skill and knowledge.

Many dentists are finding that the only reasonable basis on which fees can be determined is the "Income Hour" charge which has been fully described in "Profitable Practice." This method, briefly stated, requires the average number of actual income hours and the average time for standard dental operations.

In a \$5,000 practice the average cost of conducting the practice is \$2,500 which leaves a salary of \$2,500 for the dentist. Taking 1,000 actual income hours per year as the basis for calculation, we find that in order to maintain the practice at \$5,000 it is necessary to make a charge of \$5 an hour, which allows \$2.50 to cover "costs" and \$2.50 as remuneration for the dentist.

The following article taken from the *New York Times* is from an authoritative source and states the case so clearly for the business man that every dentist should be able to see the application to his own case.
—L. W. D.

COST OF DOING BUSINESS

IT MUST BE TAKEN IN ACCOUNT OR ELSE THERE WILL BE A LOSS

Commenting on the statement recently made before the Ohio Bankers' Association by Edward N. Hurley, Chairman of the Federal Trade Commission, to the effect that a man who does not know his true cost of doing business impairs the business of his sound competitor at the same time ruins his own, a local authority on shoe matters says:

"It is most important now, in view of the high cost of living and the high cost of merchandise, that every merchant keep a correct account of his expense and figure the expense on the business done into percentage. He should add the percentage of expense to the cost of the shoes time buys and then figure a profit on the combined costs.

"Every little while I find a merchant who still tries to sell staple shoes at last year's prices. One dealer, who claims to have a big business in children's shoes, sold a pair recently for \$1.50 that cost him \$1.30 to buy, this grade having advanced slowly from \$1.10. He was afraid of losing his business if he asked more than \$1.50. After figuring the expense of the store we found it cost this dealer 21 per cent. to do business. Adding this to the wholesale price of the shoes, we found that they cost him \$1.65 to sell, with no profit figured in.

"This is, no doubt, one of the dealers Mr. Hurley meant, for besides actually losing 15 cents of his own money on every pair he sold at \$1.50 he is the worst kind of competition for his neighbors. If this dealer continues to sell shoes at a gross profit of 13 per cent., while his cost of doing business is 21, he will some day be working for the man who knows how to figure costs."

SOME THOUGHTS ON THE BUSINESS SIDE OF PRACTICE*

BY D. R. PHELPS, D.D.S., LYNCHBURG, VIRGINIA

The origin of our profession, and the ease with which incompetent men were at one time able to go about with a kit of tools and plug teeth, has left a stamp upon the profession that will take many years to eradicate. The general public has so long been in the habit of going to the dentist and giving him an order to fill that or plug this—which the dentist often does, for the sake of a few dollars, or perhaps unthinkingly, that we have only ourselves to blame.

Let me add, parenthetically, that if five dollars were made the fee for a simple extraction, exodontia would assume an important place in the mind of the layman and incidentally, many a tooth would be saved, which is now allowed to go beyond recall, before we get a chance to even suggest its salvation.

Dentists, as a rule, have too many patients. Raise your charges to the dignity of fees, and the number will automatically decrease, giving you more time for efficient service and individual education. Do not be alarmed; your annual income will exceed that of the old order of things. You will find the charity patient and chronic dead-beat the worst kickers of your experience, but let me beg of you to make it useless

*Being a summary of remarks before the Lynchburg, Virginia, Dental Society at Lynchburg, March 15th.

for these grumblers to bruise their warped and narrow minds against your firm resolve to stand upon the rock of true, genuine, professional ethics.

It is better, as some one has tritely said, to do nothing and make nothing, than to work yourself to death and make nothing.

Of course, you will drive away from your office many that you might otherwise render service to for nothing, but who wishes to seek that class of practice? Now do not misunderstand me; I am a firm believer in charity work, but I am not, if I can help it, going to be forced or tricked into doing it. I would rather render services absolutely free, than to reduce my minimum fee. Some may question the equity of a sliding scale of fees, but may I ask such a one if the money kings, society queens and opera stars, would be charged the same fee, in his office, as the poor, but charity shunning clerk or stenographer?

Some advocate a cash charge for all services rendered, but to my mind, this is, in a large percentage of cases, impractical, because there is, in the clientele of most of us, a large number of patients dependent on weekly or monthly wage, and it is impossible for such to pay cash when the bill amounts to more than a few dollars.

In conclusion, permit me to suggest a plan, which I learn, has been tried with success in various parts of the country. Maintain a credit guide, and decide not to render professional services—except for cash in advance—for those individuals who do not pay their bills. Unless a patient comes well recommended, always inquire the name of the last dentist, if you find evidence of previous work. The precaution will be greatly to your advantage, and will often save you a large amount of worry, and untold expense.—*The American Dentist*.



THE IMPORTANCE OF SUGGESTION IN DENTAL PRACTICE

BY CHARLES NATHAN, D. D. S., BROOKLYN, N. Y.

CHAPTER II

APPEARANCE AND SOCIAL DEPORTMENT

From the earliest stages the professional man was looked up to as a man of superior attainments and necessarily so, for was he not the possessor of that wonderful gift, knowledge? The people always realized the value of his advice and respected his learning. When the professional young man goes forth into the world he is invested with this ancient heritage, he is to be looked up to and respected, but he must merit this respect. When we meet any one, particularly a professional man, we immediately take a mental note as to his appearance, his mode of approach, his intelligence, in fact all the things that go to make up personality. We expect to meet a neatly dressed, clean, educated, refined individual and rightly so, for with the possession of knowledge should come all these things, and if we don't, immediately our estimate of that individual suffers and incidentally that professional class as a whole. If instead of conducting himself after the manner of a professional gentleman, should he immediately upon meeting you, tell of his superior ability, that he treated Mrs. So and So and that your particular dentist was a botch, would your opinion of his ability be increased as much as if he had not said these things? If instead he had said, "Oh, yes, I've heard of Dr. Jones or Smith," as the case might be, "he's a fine fellow." Would you not be interested? Remember that all these things are but *suggestions* as to the individual himself. You would be attracted by a clean, neat appearing man rather than by a slovenly one. You would trust yourself in the hands of a conscientious, serious man rather than in those of a careless, flippant fellow. You would feel that your daughter, wife or sister would be safe in the care of a clean-mouthed, respectable gentleman. These things are all suggested by the individual's appearance and social deportment.

THE PROFESSIONAL CARD

We will suppose that Mr. Jones, having met you socially, is favorably impressed with you and suggests that he would like to call upon you for professional services and requests your professional card. You produce a card and let us hope that it will be in good taste so as to increase the gentleman's impression of you. That your card will not perhaps contradict the favorable impressions in the mind of your pro-

spective patient. Have the very best you can afford, engraved; if not, have the type legible and printed in black ink on a white card. Have your name with D. D. S., Dental Specialist if you specialize, your address, telephone number, and office hours if desired. Bear in mind that your professional card may be handed by a patient to people whom you may not have met, and to them it might contain a world of suggestion.

LOCATION

Mr. Jones starts out toward your office. Where are you located? Does he have to hunt you out somewhere in the middle of the block on some out of the way side street and when he has found the building, does he need a magnifying glass to find your little bit of a sign stuck in some out of the way place or will he find your office located on some prominent street easily accessible? Will your office be in the nice section of the city or in the poor, neglected section? You know that with location is naturally suggested the quality of the work and the size of the fee. Is your entrance clean and inviting or does it suggest uncleanness or untidiness? When he rings your doorbell is it brightly polished or does it hide itself shamefaced in verdigris? Does the hallway suggest brightness and cheerfulness or is it a dark dismal passage to the dungeon within? I do not prescribe, I merely ask which of these do you think would convey the better suggestion of your personality to your prospective patient?

(To be continued)

STATE OF MICHIGAN SUPREME COURT

THE PEOPLE

vs.

MARION E. BLAIR

BEFORE THE ENTIRE BENCH

BIRD J.

An information was filed in the Jackson Circuit Court, charging defendant with a violation of Act 338 of the Public Acts of 1907 as amended by Act 183 of the Laws of 1913, the same having reference to the practice of dentistry. The facts were stipulated by counsel, and a jury found respondent guilty by advice of the Trial Court. The case is here on exceptions before sentence. The conceded case appears to be in substance, that respondent was a duly licensed physician and surgeon; that he caused to be inserted in the Jackson *Patriot*, a newspaper published and circulated in the city of Jackson, an advertisement that he would be in

that city on certain days, and would extract teeth for a consideration. It was further stipulated that the pulling of teeth was the practice of dentistry, and was also minor surgery. The sections of the Act material to the controversy are:

"It shall be unlawful for any legally qualified physician or surgeon, not registered and licensed under the provisions of this Act, to extract teeth, except in cases where the person or persons whose teeth or tooth is or are to be extracted shall have been, previously to such extraction or operation, under treatment by such physician or surgeon for some other ailment or disease, and then only when such extraction or operation shall be deemed necessary by such physician or surgeon in order to preserve the health or life of his patient; PROVIDED, HOWEVER, That this section shall in no way interfere with the regular licensed physician or surgeon in the performance of general surgery, or extracting or treating teeth in emergency cases, in order to relieve temporarily the health or discomfort of a patient."

"It shall be unlawful for any legally qualified physician or surgeon, not registered or licensed under the provisions of this Act, to advertise or permit to be done, orally or by sign, token, card, circular, handbill, newspaper, or other medium of advertisement, that he can or will attempt to perform dental operations of any kind, extract teeth, treat disease or lesions of the human teeth or jaws, or replace lost teeth by artificial ones, or attempt to correct malposition thereof, either within or without a building, or who shall, for a fee, salary, or other reward, paid or to be paid either to himself or to another person, perform dental operations of any kind, treat diseases or lesions of the human teeth or jaws, or replace lost teeth by artificial ones, or attempt to correct the malposition thereof."

(1) The defendant admits the facts alleged in the information, but denies prosecutor's conclusion of law that he is guilty of the offense charged. He bases his contention on several propositions, one of which is that the law is unconstitutional for the reason that the title to Act 338 of the Laws of 1907 is not broad enough to admit of the amendment of 1913. The amendment of 1913 was made under the original title without change. The title reads:

"An Act to amend sections one, two, three, four, five, seven, eight and nine of act number three hundred thirty-eight of the Public Acts of nineteen hundred seven, entitled 'An Act to provide for the examination, regulation, licensing and registration of persons engaged in the practice of dentistry, and for the punishment of offenders against this Act, and to repeal all acts and parts of acts in conflict herewith.'"

The argument is made that the original act permitted physicians and surgeons to practice dentistry, and that in order to take away that right by amendment, the title should have given notice of it. The title of the Act indicates that all persons are subject to the provisions of the Act. A slight exception, however, is made in favor of physicians and surgeons. If any objection can be urged on this account it is because the title is too broad, and gives notice of too much, and this has been held not a fatal defect if notice is given in the title of what the act actually contains.

Jasnowaki v. Conolly, 158 N. W. R., 239 and cases.

The act as amended is more nearly in accord with the title than was the original act. The title fairly discloses the subject matter of the act as amended, and leaves little room for anyone to be misled or surprised as to the contents of the act. We think it fully meets the constitutional requirement.

(2) Respondent contends that he had the right to extract teeth and to advertise that he would do so, under his license as a physician and surgeon that he had a right to perform minor surgery by virtue of his medical certificate, and as it conceded that the extraction of teeth is minor surgery, he therefore, asserts that he is not guilty of the offense charged. The difficulty with respondent's position is that he assumes that the right he once enjoyed as a physician and surgeon to extract teeth cannot be taken away from him by the legislature without invading his constitutional right. The right of the legislature to regulate the practice of medicine and dentistry is beyond controversy. Questions affecting the public health, safety and morals of the people, are subject to regulation by the legislature under the police power of the State. This right as applied to the practice of pharmacy and medicine, has been so fully considered by this court in *People v. Moorman*, 86 Mich., 434; *People v. Ritz*, 127 Mich., 88; and in *Locke v. Ionia Circuit Judge*, 22 D. L. N., 97, it is unnecessary to again discuss it here.

The legislature has indicated an intention of making the practice of dentistry and medicine two distinct professions by prescribing the conditions and qualifications under which one may practice them. It has made all persons subject to the dental act save physicians and surgeons for which it created some exceptions. It has stated in express language in the exception what physicians and surgeons may do, and therefore we must decline to read into the act any implied exceptions in their favor. As the right to practice dentistry and to advertise to do so does not come within the exceptions, the respondent is not thereby protected from the penal provision of the act. For an instructive case

which deals with the precise question on a statute very similar in its terms, see *Taylor v. State*, 118 N. W. Rep. 1012.

(3) The final contention is that the medical act was passed twelve days after the passage of the dental act at the session of 1913, it should be construed as amending by implication the dental act. We cannot agree with this conclusion. Such a construction would be opposed to the trend of legislation. As we have said, the several acts heretofore passed by the legislature regulating the practice of medicine and dentistry have indicated its intention of separating these professions, and making them two distinct professions. By the medical act the legislature has conferred, in general terms, the right upon physicians and surgeons to practice surgery, but by the use of particular words in the dental act it has indicated its intention of restricting the scope of that general right where it overlaps into the field of dental surgery, and therefore we must hold that physicians and surgeons have no right to practice dentistry except as permitted by the provisions of the act. We think this is the reasonable construction of the legislature and is consistent with the obvious policy of the legislature to make the practice of dentistry a distinct profession.

The exceptions are overruled, and the judgment of conviction is affirmed.

NATIONAL DENTAL LICENSE ASSOCIATION

This association was formed for the purpose of securing national legislation which will establish the following:

I. A National Board of Dental Examiners before whom a graduate of any recognized dental college in the United States can appear.

II. A national license to be granted to successful candidates (to practise in any part of the United States).

III. Standardization of all the dental colleges in the United States.

Dues of this association are 25 cents monthly—funds to be used for literature, meeting rooms, etc.

Honorary Members,

Dr. Geo. Wood Clapp, Editor DENTAL DIGEST.

Hon. Wm. M. Calder.

Officers,

President, Phillip Nemoff, D.D.S., 261 9th Street, Brooklyn, N. Y.

Secretary, Jos. Heller, D.D.S., 460 E. 145th Street, New York.

Treasurer, G. W. Daniels, D.D.S., 264 Warren Street, Jersey City, N. J.

FINE COLLECTION LETTER

The following letter adapted from one sent by a large retail house to one of its customers, is certainly a model of its kind. It combines good humor, the assumption that the person intends to pay promptly, the inference that the person is busy and has merely overlooked payment in the rush of other affairs, and thereby makes it easy for the person to send a check promptly and still retain his own respect.—EDITOR.

DEAR SIR:

The check you in all probability intended to send us for the amount owing on your account of \$10.48 has not yet arrived—no doubt forgotten.

Not a serious oversight of course, but for the sake of uniformity in handling accounts which amount to considerable in the aggregate, promptness in remitting is greatly appreciated. My terms require monthly settlements.

Don't trouble to write a letter—I understand perfectly how such oversights occur. So just pin your check to this letter and mail it back to me.

Thank you.

Very truly yours,

.....
.....
..... *Credit Mgr.*

BOONVILLE, MO.

DR. GEORGE W. CLAPP:—

I have read in your August number Dr. Stein's and your remarks about cotton brigade dentists.

In my twenty-eight years' practice, I have known many such dishonest practitioners and have seen the damage caused by such fake treatments. These fellows instead of filling simple cavities at first sitting, tell them they need treating, fill them with cotton and sandarac or something that tastes a little, requesting them to return in a few days; then repeat the dose.

These victims are used as stool pigeons in the waiting room and usually will sit from a few minutes to an hour and by having them return for weeks, the office is always full of cotton patients or pigeons which creates the impression with the unsophisticated that the doctor is a fine dentist as he has five or six waiting all the time. Such men are not honest and will usually deceive their patients in other ways.

I have seen teeth treated thusly go from simple cavities that might

have been filled on presentation until the pulps ached and had to be removed and sometimes crowned, to say nothing of the unsanitary mouth.

Such practices should be exposed. I never hesitate in doing so.

Very truly,

DR. H. L. H.

A BIBLICAL QUOTATION

Long Beach, Calif., Oct. 1, 1916.

DEAR DOCTOR CLAPP:

I note in the last number of the DIGEST a clipping from the *Medical Economist* relative to the meeting of the American Medical Association, and in it a scripture quotation. As it is in the selection, it reads "All that a man hath will he give for his life, says the Good Book."

Only a few days ago, I was reading an account of a tilt between Ben. Butler of Civil War fame, and Geo. F. Hoar. Both were lawyers, and they did not have very good opinions of each other. It chanced that they were opposing counsel in a suit; and when it came to trial, there was a full audience of those who were curious to hear the encounter of wits that they felt was sure to occur. Mr. Butler made the first speech, and he was unusually guarded in his utterances; but in it, he made use of this quotation "from the Bible."

When Mr. Hoar answered him, he spoke very highly of the ability of the opposing counsel, and expressed his pleasure and surprise at finding him so good a biblical student. "But, your Honor," he said, "if you will turn to the second chapter of Job, you will see that the saying in question is not the word of the Lord, but is attributed to Satan!"

Very truly yours,

GEORGE B. SNOW.

THE BULLETIN OF THE ASSOCIATION OF MILITARY DENTAL SURGEONS OF THE UNITED STATES

In these stirring days when all professions are in a state of preparedness, the advent of The Bulletin is most timely and we are pleased to welcome it.

This association will grow rapidly by reason of the appointment of Dental Surgeons to the state militia and the Officers' Reserve Corps. It is understood that possibly the "Constitution may be changed in order to permit United States Navy Dental Surgeons and Dental Surgeons of the Units of the Preparedness League of American Dentists to enter as members." "American Dentists who have served with the Central or Allied forces in Europe as Dental Surgeons during the present war will also be eligible."



PRACTICAL HINTS

[This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions, and Answers should be sent direct to him.]*

1. **TO POLISH PORCELAIN CROWNS.**—To polish the ground surface of a porcelain crown use stones until crown is shaped as desired; take discs graduated from coarse to fine and gradually polish until you get to fine cuttlefish; then take crown to laboratory; use pulverized pumice on revolving felt wheel on motor; finish with flour of pumice and you will have a surface that it will be difficult to tell from the original baked surface.

2. **MODELING COMPOUND.**—When heating compound, if it adheres to bottom of vessel, spoiling compound and making it work hard, place a piece of brown paper at bottom of vessel and it will prevent compound from sticking and the compound will work smoothly.

3. **PLATE QUICKLY REPAIRED.**—Oftimes you are called on for a quick repair to replace a tooth on a plate; the best I have found is to dovetail space back of tooth or teeth, clean pins, place teeth in place, hold them with your finger, using a thin piece of asbestos paper, place a piece of Mallott's metal at opening, heat spatula and work metal down in place; cool, polish and you have a dandy repair. This can be done in eight or ten minutes while patient waits in reception room.

4. **FOR QUICK DEVITALIZING.**—Peridental inflammation frequently occurs from pressure anesthesia. To prevent that, grind out cavity, remove as near to pulp as possible or expose a little, place in one or two pellets of cocaine hydrochloride, $\frac{1}{8}$ gr. adrenalin, $\frac{1}{320}$ gr. (a Parke, Davis preparation) seal with cement, dismiss patient for one hour, then when patient returns you can remove pulp without pain. I use this for molars a great deal.—C. I. FAISON, D.D.S., Dallas, Texas.

THE CORRECT METHOD FOR MANIPULATING AMALGAM.—To obtain perfect results, one should use correct proportions of a balanced alloy and mercury and the right proportions cannot be obtained without the use of scales. Some men prefer to weigh the materials at the time the filling is placed. However, I believe one can save time, and get more

*In order to make this department as live, entertaining, and helpful as possible, questions and answers, as well as hints of a practical nature, are solicited.

uniformly accurate results, by keeping the alloy and mercury in capsules which contain correct proportions of each. I always have on hand capsules of alloy and mercury (4 sizes), which, when mixed will make pellets of 8, 12, 18, or 23 grs. according to the size of the restoration I wish to make. It is impossible to mix properly without the use of mortar and pestle. Two minutes' mixing in mortar and pestle and a minute's kneading in the palm of the hand between *clean, dry rubber dam* will accomplish the desired result.

For condensing in cavity, select instruments of suitable size, with *smooth* slightly convex surfaces. Carry well over margins, and finish with large faced plugger accompanied with light blows of hand mallet. Carving and burnishing should not be started until amalgam is reasonably hard, as it is apt to be drawn away from margins. *Alcohol, water, or saliva*, coming in contact with the amalgam before it has hardened, decreases the strength of the filling 25 per cent.—N. L. KETTLEWELL, Oak Park, Ill.

ADAPTING UPPER DENTURES.—If your metal base will not stay up, place a roll of wax or modeling compound over the posterior edge of plate, warm thoroughly and press to place and have patient bite and swallow. If the plate stays up fill with plaster and let harden; remove wax with heat or without and swage plate down to the plaster. If vulcanite, brush down and vulcanize rubber into the place the wax occupied.

This method can be used after plate is all completed and at subsequent time thereafter if necessary. It is necessary to do this with nearly all cast bases and many vulcanite bases. I have used this method over six years and in nearly every case it has given excellent results.—G. P. BAUGHMAN, D.D.S., What Cheer, Iowa.

TO FINISH A SILICATE FILLING.—We are told that the last thing to do to a synthetic filling before leaving it for the first setting is to "puddle" it by patting. This same result may be accomplished without touching the filling, by gently tapping the tooth.—J. F. NELSON, D.D.S., Chicago, Ill.—*The Dental Review*.

HEATER FOR WATER AND SPRAY BOTTLES.—Get an aluminum pan about three inches deep and six to seven inches in diameter (with straight sides if possible). Cut a hole in the side large enough for an electric light receptacle to go through, cut holes in bottom of pan for your glass of water and spray bottles. Put a four-candle power carbon lamp in the receptacle and turn on the juice, and you will have warm water all day long without further bother.—EDWARD T. EVANS, D.D.S., Decatur, Ill.—*The Dental Review*.

QUESTIONS AND ANSWERS

In reply to J. W. P., page 590, September DIGEST, I send two answers.

ANSWER No. 1.—Refer your patient to a pyorrhoea specialist. It's the only honest thing for you to do under the circumstances, and you won't lose any prestige by it.

ANSWER No. 2.—If your diagnosis is correct, that "the fellow wanted a gold crown," he should not be required to "think up some tale to get by." His health, I assume, is not involved, therefore the question is one of taste. Now remember he hasn't had your special education. He wants to buy that crown on the same basis that he would a ring for his finger and for the same reason. If a finger is his to decorate as he pleases so is a tooth. He can decorate any other part of his body as he wants to, even to earrings, so why not a tooth?

Several years ago, when I had more conceit than I have now I would have done as you did in this case. To-day I'd make that crown, and justify the act from any point of reasoning. Just learn to drift a little with the current as you cross life's stream. It's so much more sensible than making an uphill fight all the way, or even sticking to a strictly straight line.—Dr. W. G. W., Waterloo, Iowa.

Your first answer is good—exactly right. But your second answer, I believe—absolutely wrong. Must we, as you say, as years roll by, lose our conceit and our ideals and drift as a log of wood with the stream? No. Much better that we stand erect in our canoe with our paddle, and shoot up, down or across as our purpose, our desire and our conscience may dictate.

My father is eighty years old. He has a clear keen eye and a firm steady hand. He is as straight as an arrow and as spry as a school boy. He loves dentistry and still works at his chair every day. He is and has always been an idealist. Forty or more years ago an Irish woman came into his office and said she wanted a gold crown on a lateral that required only a very small filling. "Pat has struck it rich in the moine und oy want a gold crown on thot tooth." Father explained for half an hour the ethics and esthetics applying—that nature's beauty is unexcelled; that ideal dentistry is an art; and that true art is the art that conceals itself, etc. But when she broke in with "Oy'l give ye fifty dollars to put a gold crown on thot tooth, will ye do it?" He could not have been more insulted if she had slapped him in the face. His breeding, however, would not permit him to speak discourteously to a lady, so he simply turned around and walked off and left her sitting in the chair, shutting himself in his private office until she got up and left.

It is needless to add that he never has and most likely never will put gold crowns on anterior teeth.—V. C. S.

Question.—Patient. Young lady of nineteen—good health, but suffering much pain from pyorrhoea on left lower central—beautiful teeth, none decayed—impossible to get anterior teeth together on account of malocclusion; splendid posterior occlusion. Troubled with severe pain at night in right superior and left superior first molars. No sign of decay, but cannot have any cold liquid to touch them—if so, followed by excruciating pains. Would you advise devitalizing, or wait till you have cured pyorrhoea? or what?—J. W. P.

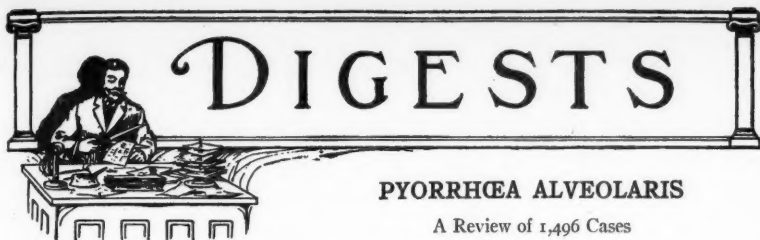
ANSWER.—I suggest that the lower centrals be painted with 10 per cent. Ag. No. 3, which will not discolor, and a stronger solution may be used on both upper first molars. If these applications are ineffective it would be much wiser to devitalize than allow the patient to continue to suffer. It is of course imperative that the pyorrhoea be treated and patient instructed in mouth hygiene. The teeth should be thoroughly brushed three or four times daily.—MAX GIESICKE, D.D.S., Colo.

Question.—Your good advice is requested in the following case. A relative who does not live in C. has what I think is an incipient case of pyorrhoea. I see her once every month or six weeks, and to-day heard from her saying in her words "My teeth are getting worse all the time, the lower front ones are so sore than I cannot bite on them, the gums are swollen and stand away from my teeth."

The patient is a young lady of twenty and takes good care of her teeth. Her father has a bad case of pyorrhoea and lost most of his teeth by their becoming sore and loose, yet great care is used about drinking vessels and the like. There is only a rim of inflamed gum around the teeth, the rest of the gum is healthy, I should like very much to receive some advice from you through the DIGEST or otherwise.—F. C. S.

ANSWER.—If you are positive that you have thoroughly removed all the deposits from your patient's teeth, I will suggest you try the following. With a good spray, containing glycothymoline heated and using considerable force, wash out the mouth and the pockets about the teeth, after which paint the pockets and septic tissue with a 10 per cent. solution of trichloroacetic acid. At subsequent treatments use the spray as before and apply Buckley's Pyorrhea Astringent to the pockets.

The patient should be instructed to paint the gums at home with campho-phenique, which can be applied by wrapping a small piece of cotton about the end of a toothpick and used as a swab. While the condition is acute a mouth wash may be of some value but for continual use is contraindicated. Emetine in any form is absolutely worthless in this condition.—MAX GIESICKE, D.D.S., Denver, Colo.



PYORRHŒA ALVEOLARIS

A Review of 1,496 Cases

BY JOHN A. RODDY, M.D., PHILADELPHIA

ELMER H. FUNK, M.D., PHILADELPHIA

AND DAVID W. KRAMER, M.D., PHILADELPHIA

The gross pathological changes by which pyorrhœa alveolaris is recognized vary as the disease progresses. Turner refers to the first stage as "solid stagnation" and gives as its clinical signs—apparently healthy gums from under the edge of which may be squeezed a pultaceous mass composed of germs, later a subacute or chronic gingivitis, the edge of the gum swollen and showing bluish or reddish discoloration and protrusion of the interdental pads; the condition may be general or localized around one or two teeth.

A study of 1,496 cases convinces us that Turner accurately describes the first manifestations of pyorrhœa alveolaris, and that Dowsett's description applies to the next stage of the disease, in which there is gingivitis and the interdental papillæ shrink down or become transversely creased, leaving a space between the teeth; at this stage there is no discharge of pus. Dowsett states that early in the disease absorption of the apices occurs.

In its fullest developed form, the clinical manifestations of pyorrhœa alveolaris are gingivitis with an inordinate tendency of the gums to bleed, shrinkage and recession of the gums from the teeth, forming pockets that contain pus, excrescences upon the roots of the teeth, and eventually looseness of the teeth.

Subsequent developments may show that these signs are not proper criteria upon which to base a diagnosis of pyorrhœa alveolaris, but the most casual or extended perusal of the literature on this subject will indicate that these phenomena are the signs upon which the medical and dental professions base a diagnosis at the present time.

With a few notable exceptions it is generally believed to be a common disease: "ninety-five per cent. of people who apply regularly for dental service have present in their mouths in some location conditions which constitute the principal etiologic factors of periodental inflammation" (Black).

Pyorrhœa alveolaris is not a disease of equal incidence in all classes; it is relatively rare among robust, educated, and intelligent adults, more

frequent among delicate, ignorant, and unintelligent adults, common among those afflicted with certain chronic systemic diseases, and most common among the tuberculous, especially the ignorant and destitute tuberculous. We have examined 2,676 persons and find the incidence to vary from two per cent. to eighty per cent. in different classes, as shown in the following table:

Number examined.	Presenting distinct clinical signs of
200 Apparently healthy students, 20 to 30 years of age	Pyorrhea. 2 per cent.
100 Ambulant private patients, educated cleanly adults	6 per cent.
300 Medical dispensary patients, adults, acute diseases only	7 per cent.
300 Medical dispensary patients, adults, chronic diseases only, excluding tuberculosis	15 per cent.
1,776 Pulmonary tuberculosis, 506 bed, 1,270 ambulant patients	80 per cent.

If this disease did no more than interfere with mastication it would be serious enough to deserve the attention that has been given it by the dental profession, but an indisputable mass of evidence has accumulated which shows that complications of pyorrhœa alveolaris develop in portions of the body remote from the head, and seriously injure or destroy important organs. Fossier has collected from the literature seventy-five cases of severe or fatal pyogenic infections which appear to have been complications of pyorrhœa or some similar disease of the mouth. After several years of clinical and laboratory studies of this disease in Rochester, Mayo believes pyorrhœa alveolaris to be worthy of consideration among the possible causes of grave gastric disturbances. Niles believes many cases of "idiopathic phlegmonous gastritis" and chronic gastritis are complications of pyorrhœa alveolaris and quotes Tucksdorff and Fitzgerald to support this view.

Of the ninety-seven patients with advanced pyorrhœa alveolaris, whom we were able to study most carefully, forty presented one complication as follows: Arthritis, eighteen; gastric disturbance (anorexia, nausea, and eructations), ten; headache, lassitude and anemia, twelve. Twenty presented two complications as follows: Recurrent tonsillitis and gastric disturbance, three; recurrence tonsillitis and arthritis, seven; arthritis and fever, five; gastric disturbance, malaise, and fever, four; tonsillitis and cervical adenitis, one. Twelve presented coexisting maladies which probably were complications, but the connection could not be established; of these three had recurrent earache; four, neuritis; two, albuminuria, and three, furunculosis.

PATHOLOGY

Until the order in which the involved tissues are attacked has been disclosed, it will be impossible to substantiate or discredit either of the

opinions held at present as to the origin of this disease. A considerable number of dentists and some physicians believe as Rhein and Weston, "instead of pyorrhœa alveolaris being so common it is very uncommon and only found after some form of malnutrition has proceeded far enough to destroy the immunity of this end organ tissue." "The progressive pathological stages of pyorrhetic lesions indicate very definitely that one of the most, if not the most important factor is inherent in the tissue itself."

Znamensky concludes from microscopic examinations of sections of the jaw, that the jaw bone is first destroyed by a process of rarefying osteitis. It is first transformed into connective tissue which becomes absorbed. When the bone forming the sockets of the teeth is destroyed, pockets are formed which become infected with pyogenic organisms and a flow of pus ensues. When rarefaction is limited to a part of the bone not containing marrow, cure is possible. He states that these changes are due to local or general conditions and names as causes: osteomalacia, syphilis, and rickets. These investigators fail to record findings which would conclusively support their positive statements.

Of the great number who believe that pyorrhœa alveolaris is due to extrinsic causes which first attack the exposed teeth and gums and affect the apices and alveolar processes later, Turner is the only one who presents post mortem findings to support it. He concludes from post mortem studies of the jaws and teeth of fish, wild and domestic carnivora and herbivora, and man, of all periods from the thirteenth Egyptian dynasty to the present time, that a diet rich in sticky carbohydrates, especially finely ground flour, is the cause.

Confronted with these two opposing views as to the tissues first involved and the consequent relative importance of intrinsic and extrinsic factors in the etiology of pyorrhœa alveolaris, we have conducted our clinical and laboratory investigations so as to determine the relative value of these factors.

The röntgenologists, who in the last few years have added much to our knowledge of pathological processes involving the jaws and teeth, probably can and will supply the information necessary for a more adequate knowledge of the part played by intrinsic tissue defects in the development of pyorrhœa alveolaris.

VITAL CAUSES

Attention has been recently fixed upon *Amœba gingivalis* Gros, which was heralded as the specific cause of pyorrhœa alveolaris. No better denial of this could be made than the recent statement of Smith and Barrett that there are cases of pyorrhœa alveolaris which are not due to

amœba. They still believe, however, that the vast majority of cases are caused by amœba.

There is strong evidence that few if any cases are caused by amœba. Williams, Sholly, and Rosenberg report having made 995 smears from the superficial margin of the gums of children between five and fifteen years of age who presented no pus pockets. Sixty per cent. of all the children examined harbored amœba and twenty-nine per cent. of them had apparently normal mouths. In these cases the institution of oral hygiene without emetine, reduced the number of amœba carriers one half; oral hygiene plus emetine reduced the amœba carriers ninety per cent.

CONCLUSIONS

The chief etiological factors of pyorrhoea alveolaris are:

1. An excessive bacterial flora of the mouth; and deviations from normal of the affected tissues brought about by certain diseases.
2. Oral sepsis is the first stage of pyorrhoea; the etiology of both is the same.
3. Pyorrhoea can be prevented by regular cleansing of the mouth and teeth.
4. The detection of all the etiological factors in the majority of cases of pyorrhoea requires a thorough dental and medical examination. Whenever possible an X-ray examination should be made.
5. Acute recurrent gingivitis or chronic gingivitis or a persistent excessive bacterial flora of the mouth is a clinical sign of this disease.
6. Systemic complications are rare in the early stages and frequent in the late stages.
7. Coincident systemic diseases are frequently associated with pyorrhoea.
8. There is no specific method of treatment.
9. The three indispensable factors in the treatment are: 1. Training the patient regularly to cleanse the mouth and teeth; 2, the institution of whatever dental treatment may be indicated; 3, medical treatment of coexisting systemic disturbances or disease.
10. Emetine may well be employed as an adjunct on the principle that it will do no harm and may possibly in some cases be beneficial.
11. When infectious systemic complications exist, an autogenous vaccine is indicated and even in uncomplicated cases will at times accelerate improvement.—*The New York Medical Journal*.

EPITOME OF CURRENT DENTAL AND MEDICAL LITERATURE

[*The Dental Outlook*]

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THE RELATION OF DENTAL HYGIENE TO PUBLIC HEALTH*

BY DR. HARVEY W. WILEY

Now, I lay this down as a fundamental proposition in mouth hygiene, that you can't build good teeth unless you have some material to build them out of. That is impossible. Our mothers and fathers ought to feed us so we can have material out of which to make our teeth. Nature is rather peculiar in some respects, and if she has a certain amount of material out of which bones and teeth are made, and has not enough to do both, she tries to put them into the bones first of all, leaving the teeth to get what is left over, if any, and usually there isn't anything much left. Now, in the food for the child we should look especially to that part of it which builds our bony structure of which the tooth is a type. And what is it? What is it we use for that purpose? I mention the two most important things. They are phosphoric acid and lime. And if you feed a child a food supply which is deficient in phosphoric acid and lime you of necessity endow him with teeth of poor structure, which have no resistance to decay, and which soon fall by the way.

Now, do we do that? Yes, we do that. A great many of our children are deprived of their mother's milk, and hence we feed them artificial, hand-made foods. And what do we give them? Why we usually give them some of these refined products of cereals. That is the usual method of feeding a child deprived of its mother's breast, and we find converted starch is the principal one of those foods. Starch, which has been converted into sugar usually by the action of malt diastase.

*Delivered at the Washington Irving High School Auditorium, March 24, 1915. Public meeting held under the auspices of The Allied Dental Council of New York.

Well, that is good food for making fat—splendid food for that—but you might feed a child this roomful of starch converted into maltose or dextrine, or both, and you could never build a single iota of any tooth structure out of all of it. There isn't anything in it out of which to build teeth. And so instead of feeding the child deprived of its mother's breast on milk, which has in it the elements out of which teeth are built, we go over to this artificial substitute for infants' food, which would do very well for a farmer at work in the fields, or a forester cutting lumber in the woods, or for a soldier making a forced march in Mexico; would be excellent food for these grown up hardy men, but a totally imperfect and incomplete food for any growing child during the whole period of growth. And thus we begin to neglect right at the start the fundamental things which nourish the child so as to build those tissues which are so important to his subsequent health and strength. Now, is that not so? Just go and examine the foods of artificially hand fed children, not only the infants, but in the first two or three years of their lives. I see it every day. Except in my own home, wherever I go I see children fed in that way. The wonder to me is that we have as much as 10 per cent. of good teeth among our children. That is a pretty high percentage, because most of the investigations have shown what you have heard here to-night, that 95 per cent. even of children have some defect in their teeth. I am surprised that it is not a larger percentage, when I realize how those children have been fed and are fed to-day.

Now, I want to tell you one or two things which you must do for a child. What are the foods which we must give him which will furnish him these mineral substances so necessary to the growth of bone and the teeth, and without which no one can be healthy? Most of our lecturers on dietetics, most of our schools of domestic science, when they speak of diet never mention that element of diet which is quite as important as any other element. They tell you about the protein and about the fat and about the starch and sugar, and they think they have finished. But they forget that there is an element of food, small in quantity to be sure, compared with those I have mentioned, but equally as indispensable to nutrition, and that is the mineral food which we should eat.

And what is the tendency of modern progress, you may call it if you like—I won't call it that. I call it modern fashion or style—what is the tendency? The whole tendency of modern style in food is to demineralize them as much as possible. That seems to be the principal effort of our food manufacturers, to take everything out of food that can nourish the mineral portion of the body, and get it white and fine and free of coarseness and fiber, and thus render it unfit for the sustenance of the human animal. Let me illustrate this with one article of food. I will take

wheat. Wheat is a fine food. Wheat is a well-balanced food, as nature has made it. Wheat I sometimes call the milk of the adult, just as milk is the wheat of the infant. On wheat alone you can live for a considerable time. In fact, it contains all the elements that are necessary to nourish you although I do not believe in a mono-diet. But on wheat you can live longer than you can on any other one food, with the possible exception of milk.

Now what do we eat of the wheat as a rule? Why, we eat the proteins, a part of it, and the starch. And what is it we don't get in the wheat when we eat it? As a rule, we get hardly any mineral substance it contains, nor the germs of wheat, which are so important in nutrition. Those are all put aside. Those are made into bran, shorts and middlings; and the farmer buys them to feed his dairy cow. He knows what is good for her. He robs his own child that his cow may give more milk, and he doesn't know it.

Now, it is a crime to feed children white flour products; it isn't a mistake, it is a crime. Yet—you are all doing it over this country.

[*The Dental Cosmos*, October 1916]

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[*Bulletin* No. 101, Hygienic Laboratory, U. S. Public Health Service.]

THE STERILIZATION OF DENTAL INSTRUMENTS

BY H. E. HASSELTINE, PASSED ASSISTANT SURGEON, U. S. PUBLIC HEALTH SERVICE.

At the request of a number of dentists and dental societies for a simple and efficient method of sterilization of dental instruments, the Surgeon-general of the Public Health Service designated Dr. Hasseltine to undertake the work, and the results of Dr. Hasseltine's investigations and experiments are published in detail in the report referred to above.

In outlining the scope and character of the experiments and investigations conducted, Dr. Hasseltine says that the consideration of spore-forming organisms was disregarded for the reason that the number of such organisms is comparatively few, and since in the spore stage the organisms are easily removed by mechanical means, that means is relied upon for their removal. Dr. Hasseltine then gives the following list of methods of sterilization employed at present by dentists, and says that the efficiency of most of these methods was tested and the advantages and disadvantages of each considered:

Thermal—Boiling in water. Use of boiling water. Passing an instrument through a free flame. Moist heat in a closed or open chamber. Dry heat in a closed chamber.

Chemical—Carbolic acid, followed by alcohol. Other coal-tar products, followed by alcohol. Formaldehyde vapor in a tight chamber. Other chemicals, such as gasoline, solution of biniodid of mercury.

With regard to chemical methods of sterilization, the author gives his experiments with one method, *i. e.*, formaldehyd gas in an airtight chamber, the popular chemical method used by dentists of late years he finds many disadvantages in this method. The action of gasoline, petroleum, ether, etc., were also tested, but their efficiency proved to be doubtful and uncertain.

Dr. Hasseltine expresses his preference for sterilization by means of moist heat, and places these methods in the following order of merit:

1. Boiling for at least ten minutes in 0.25 per cent. sodium hydroxid.
2. Use of water-bath at 80 degrees C. for at least ten minutes.
3. Use of moist heat in free chamber (Arnold sterilizer) for at least ten minutes after thermometer reaches 100 degrees C.
4. Submersion in boiling water for at least ten minutes, the source of heat being removed immediately prior to submersion of the instrument.
5. Application of dry heat by passing instrument through a free flame.
6. Dry heat in closed chamber.

After further suggestions with regard to general sanitary methods to be adopted in the care of the dental office, the author summarizes the result of his experiments and investigations with the following conclusions and recommendations with regard to the various methods:

CONCLUSIONS

1. Moist heat is our best disinfecting agent for the sterilization of all metal instruments.
2. For the destruction of non-spore-bearing bacteria, moist heat at 80 degrees C. is nearly as efficient as boiling, and for practical purposes can be used in place of boiling.
3. Instruments constructed of metal, whose complicated mechanism has heretofore caused them to be considered as non-sterilizable, can be sterilized by moist heat, provided the water is removed from them by immersing in alcohol subsequent to sterilization.
4. Instruments whose construction does not permit of boiling can be sterilized by chemical disinfectants.
5. There is need for more practical instruction in dental schools and clinics in the methods of sterilization, and the subsequent testing of the same by bacteriological methods.
6. Dentistry, which is a highly specialized branch of surgery, should use the two factors, asepsis and anesthesia, which have made possible the wonders of modern surgery, with skill and precision equal to that of surgeons.

RECOMMENDATIONS

1. That all instruments and appliances be rendered mechanically clean by washing in water with a brush or sponge.
2. That the following instruments and appliances be boiled or submitted to 80 degrees C. in a slightly alkaline solution (0.25 per cent. sodium hydroxid):

Artificial teeth used in matching and measuring. Broaches and their holders. Burnishers. Burs. Chip-blowers. Chisels. Drills. Excavators. Explorers. Files. Forceps, extracting. Forceps, foil. Handpieces for engine. Impression trays. Knives and lancets. Mallets, hand and automatic. Mixing slabs. Mouth-gags. Mouthpiece of saliva ejector. Pliers. Pluggers. Pyorrhoea instruments. Polishing points and brushes (if not discarded after using once). Reamers. Root-elevators. Rubber-dam clamps and forceps for same. Rubber-dam weights and metal parts of holder. Saws. Scalars. Scissors. Scratch-

wheel on head of engine. Spatulas, metal. Syringes, hypodermic. Syringes, water. Tongue-holding forceps. Mirrors (if 80 degrees bath be used, but not to be boiled).

3. That instruments in the above list whose mechanical construction makes it difficult to remove the excess of water are to be placed in 95 per cent. alcohol for ten minutes to remove water, then removed and allowed to dry.

4. That only instruments with metal handles be used by dentists desiring to follow this method.

5. That the following instruments be sterilized by immersion in five per cent. solution of phenol for at least sixty minutes: Mounted stones. Tortoise shell instruments. Mirrors (when 80 degrees bath is not used). Other instruments not of metallic nature and which cannot be replaced by metallic instruments.

6. That instruments, after using, be placed in a fluid medium, preferably clean water, to avoid drying of infectious material and to facilitate their mechanical cleansing.

7. That no instrument or appliance, used on a patient directly or indirectly, be used on any other patient until recommendations 1 and 2, or 1 and 5, as the case may be, have been complied with.

[*The International Journal of Orthodontia*, September, 1916]

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[*The Dental Review*, October, 1916]

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[*New York Medical Journal*, September 9, 1916]

THE RELATION OF DIET TO DISEASES OF THE SKIN

BY ALBERT STRICKLER, M.D., PHILADELPHIA

Assistant Dermatologist, Philadelphia General and Samaritan Hospitals; Lecturer in Dermatology, Temple University Medical School, etc.

Food, a prime necessity to the maintenance of human existence, is at the same time capable of producing a varied number of pathological conditions in the human body. These conditions may be either acute or chronic.

Foods are capable of acting either as primary or as secondary factors in producing disease in a number of ways.

1. We may partake of a certain type of food for a long period of time and so upset the equilibrium existing in the body.
2. We may partake of food which acts as an acute poison, producing various acute diseases of the skin.

3. The human organism may be hypersensitive to various proteins, and the ingestion of these particular protein foods may be productive either directly or indirectly of diseases of the skin.

4. The bacterial flora of the intestines may so alter the products of digestion or be altered by them, as to produce toxic products whose absorption may induce various cutaneous eruptions.

A great many affections of the skin have at one time or another been attributed to errors of diet; we shall discuss, however, only those diseases in which foods as a causative rôle have been definitely established. These diseases are psoriasis, eczema, urticaria, and acne vulgaris.

Psoriasis—This disease which constitutes between four and five percent. of all skin diseases, has remained an enigma until recently. Various theories have been advanced to explain its pathogenicity, but none have met with approval.

Recent studies by Dr. Jay F. Schamberg, Dr. John A. Kolmer, and Dr. G. W. Raiziss have thrown some light on the nature of the disease. As a result of carefully conducted metabolic experiments, carried out on psoriatic subjects over varying periods of time, the following facts were demonstrated:

1. On a given protein diet a psoriatic subject eliminates less nitrogen in the urine than a normal subject on a similar diet.

2. Psoriatic patients show a marked retention of nitrogen, and this occurs on a diet low in nitrogen, and on which a normal person would fail to maintain an equilibrium.

3. A low nitrogen diet has a most favorable influence upon the eruption of psoriasis, particularly if it is extensive. The authors maintain that severe cases of psoriasis improve under such diet, almost to a point of disappearance of the eruption. From these studies and also from some observations of the author, it may be concluded that in a large number of subjects of psoriasis, particularly those who can be kept in a hospital where the diet is carefully controlled, a low protein diet influences favorably the eruption of psoriasis and probably renders local remedies more efficient by making the skin less irritable.

Eczema—This disease, the most common of all affections of the skin, is of variable etiology. For a long time, diet was suspected to be causative of a certain percentage of cases of eczema. In recent years attempts have been made to separate cases due to diet from those of different origin. This is done by means of anaphylactic food tests. Two principal methods are employed:

1. The cutaneous method, consisting in abrading the skin and rubbing in the various food products, waiting thirty minutes and reading the reaction; and, 2, the endermic method, which consists in injecting into

the layers of the epidermis a stated quantity of the different proteins in solution or suspension, waiting from twenty-four to forty-eight hours, and reading the reactions. All agree that a positive reaction consists primarily of a papule at the site of injection and secondarily of an erythema. All agree that normal persons do not give positive reactions.

These food reactions in eczema have been studied by Doctor White, Doctor Blackfan, and the author.

Doctor White employed the endermic method, using a dental bur to produce the skin abrasion, then rubbing in the various food proteins. He concludes that approximately twenty per cent. of patients with eczema do not react positively to food proteins as shown by the anaphylactic tests. He reports some fifty-six cases in which these tests were carried out and a number of cures due entirely or in part at least to a modification of diet. Doctor White used local treatment as well as a dietary régime based on anaphylactic food tests.

Doctor Blackfan studied forty-three patients without eczema, using the anaphylactic food tests, and only one gave a positive test. His work was done with children. Of the twenty-seven with eczema, twenty-two gave evidence of susceptibility to proteins. Blackfan found the endermic method more sensitive than the dermic.

In my investigations I employed the endermic method in all cases. In all, forty-six patients with eczema were studied and a great majority of them were adults and older children. The author studied a number of cases of chronic urticaria, and while some positive results were obtained, a correction of diet according to these findings failed to influence eruption.

Acne vulgaris—Lastly, we consider *acne vulgaris* a disease which afflicts between seven and ten per cent. of the patients in private dermatological practice. Anaphylactic food tests in this disease, even when positive, do not yield fruitful therapeutic results when the diet is corrected according to the findings.

According to studies conducted by Dr. Kolmer, Dr. Schamberg, and the author, in this disease we are dealing among other things with an intestinal toxemia. Both complement fixation experiments and therapeutic results seem to point strongly in this direction.

SUMMARY

From this brief exposition the following may be summarized:

1. In psoriasis we are dealing with a disease of disturbed nitrogen metabolism. In this disease there is a marked nitrogen retention; and when the patient is placed on a low protein diet, particularly when the eruption is extensive, the disease is influenced very favorably.

2. In eczema, in about fifty per cent. of the cases, a correction of diet as shown by the anaphylactic food tests, is productive of good therapeutic results. In fact, these should be made in every case of chronic eczema, because physicians of experience realize the difficulties in treating this group of cases.

3. In acute urticaria, the anaphylactic food tests are of value from the viewpoint of both prophylaxis and therapeutics, while in chronic urticaria, their value is questionable.

4. In acne vulgaris there is evidence in most cases of an intestinal toxemia, as shown by the complement fixation tests, and food sensitization does not play a rôle in the etiology of this affection.

DIGESTIBILITY AND UTILIZATION OF EGG PROTEINS

Bateman (*Jour. Biological Chemistry*, August, 1916) shows very plainly the necessity of investigating routine methods. For many years it has been the custom to feed patients on raw eggs in order to increase the body weight. As long ago as 1898 Steinitz reported that the administration of raw egg white to dogs caused vomiting and diarrhea. This was again noted by Mendel in 1913. Bateman found that when uncooked egg white of three to five eggs was fed to dogs it invariably caused diarrhea of more or less severity. Experiments were also made with raw eggs upon a number of persons, and the results obtained confirmed what had already been determined. The egg white was poorly utilized, and most of the patients suffered from diarrhea which, however, generally decreased in the course of several days. Various investigators report that fifty per cent. only of the raw egg albumin is made use of.

As a control experiment two sets of dogs were fed meals alike except that one received native egg white ground to a fine pulp. By the addition of water to both types, meals were made as nearly of the same consistence as possible. Those meals containing the raw food stuffs always caused diarrhea while the others did not.

It has also been noted that the ingestion of raw egg white does not stimulate the flow of gastric juice, that it quickly passes out of the stomach accompanied by scanty amounts of gastric juice and that it is practically unaffected by pepsin. In other words there is to all intents and purposes no gastric digestion.

In order that egg white be made digestible, it must be coagulated by heat; by precipitation with alcohol, chloroform, or ether; by incubation with dilute alkalies or acids; by partial digestion by pepsin; by conversion into alkali metaprotein.

The conclusion of greatest interest to the clinician is that although

whole eggs, raw egg white, and albumin water are extensively prescribed, there appears to be little in their conduct as food stuffs to warrant much faith in their nutritive value or ease of assimilation.

[*New York Medical Journal*, September 16, 1916]

VITAMINES AND BODY GROWTH

The study of the vitamins is proceeding apace and our knowledge on the subject is forming into definite shape. According to Dr. Marvin D. Shie (*Medical Press and Circular*, August 23, 1916), who wrote concerning the effect of vitamins on body growth, the deficiency diseases, owing presumably to the absence or to the lack of vitamins in the diet, include osteomalacia, rickets, pellagra, beriberi, and scurvy. Probably many diseases will now be classed to a greater or less extent among the deficiency diseases. Shie points out, indeed, that recent researches have shown that scurvy is only one of a group of diseases which are induced by deficiency in the food of certain substances minute in amount, but essential for proper nutrition. These substances are the vitamins. There are many articles of diet, such as potatoes, carrots, fresh vegetables, lime and other fruit juices, also certain animal foods, e. g., fresh milk, fresh meat, and yolk of egg, which are not only valuable for their nutritive constituents, but for their content of vitamins.

Dr. Carl Voegtlin is pursuing some valuable investigations along these lines into the causation of pellagra at Spartanburg, S. C. His researches and those of his co-workers have led to the belief that pellagra is due to a deficiency of vitamins. These investigations are still under way, however, but it may be anticipated that further work in this direction will result in considerably more light being thrown upon an extremely interesting subject and one of the greatest importance. Experiments by numerous workers in this field, and especially by Funk, have demonstrated beyond a peradventure that animals fed on certain diets, on foods deficient in vitamins, do not grow normally, but that when the vitamin element is introduced into the diet, growth becomes normal. Absence of fat in the diet causes suspension of growth in animals, but, as Shie points out, it is not the absence of fat *per se* that causes this suspension, but the absence of the vitamins in solution. Mendel and some others hold that there are several vitamins, one for the maintenance of health, one for growth, another for curative measures, and so on. Funk, however, denies this, and bases his opinions upon experimental investigations into birds. There is no more fascinating study and, at the same time, one of more practical value than that of the vitamins. By a thorough knowledge of them probably many diseases may be prevented and many

others cured. It is becoming more and more evident every day that diet scientifically planned plays a great part in the attainment and preservation of health, and consequently in the prevention of disease.

[*Medical Record*, September, 9, 1916]

HYGIENE OF THE MIND

Benjamin P. Croft discusses the hygiene of the mind more particularly as it applies to the physician, though his suggestions are equally valuable to others. He says he has wondered many times of late whether as practitioners of medicine we are not in danger of forgetting the real significance of the influence of our minds upon the successful conduct of our work, and the better preservation of our physical bodies and those committed to our care. In our constant efforts to cure diseases either by drugs or surgery or both we are prone to forget how important the influence of a proper control of the emotions is. History teaches that the loss of emotional control has in some instances resulted in death, and there are on record many instances of the effect of emotion on the various physiological functions. There seems to be no question as to the need of regular systematic mental and physical diversion from one's usual occupation. In discussing this proposition the essayist considers what benefits may be derived from outdoor occupations, such as golf, agriculture, geology, etc., and from the relaxation of literature. He thinks that the mental relaxation and stimulation of friendship is one of the benefits we are losing out of our busy modern lives. Above all, he emphasizes the importance of attaining and keeping an attitude of mental optimism. This mental habit should be cultivated early in life; but it is never too late to begin.

[*Medical Record*, September 16, 1916]

EDUCATIONAL MENUS

The medical profession has been described as being the only altruistic one in the world, that is, it is constantly endeavoring to deprive itself of its means of livelihood. When preventive medicine has achieved its final victory, the family physician can take in his shingle and bring up his children to be wireless operators or aviators. We are of course a long way from this millenium, but there is no doubt that the public is becoming better educated in health matters. Such terms as bacillus, salvarsan, and the calorie are mentioned in the best society now. For centuries mankind has dimly realized that the average individual eats too much

and many aphorisms have gathered about the subject, as "Man lives on one-third of what he eats, the doctor lives on the other two-thirds," and "Leave the table always feeling that you could have eaten more." It is only comparatively recently, however, that the exact requirements of the human machine has been estimated with an arbitrary unit, the calorie, as a standard. The next step will be the familiarization of the lay public with the caloric value of various foods. A move in this direction has already been taken by the Public Health Department of New York City which furnishes educational menus to its employees at its lunch-room at headquarters. The menu cards are ruled vertically into five parts containing respectively the name of the food, its price, the quantity in a single order, the number of calories, and the protein content. Thus we have a glass of milk: four cents, seven ounces, 160 calories, seven grams of protein. Apple pie, five cents, one-sixth of a pie, 300 calories, four grams of protein. To be sure it would seem better to use the metric system all the way through if it is to be used at all, but this is of small moment. The important fact is that these employees can eat intelligently (if they wish to do so), something of which Americans are notoriously incapable, according to the Continental belief. When this custom is extended to private dinner parties we shall begin to realize its full benefit as an aid to conversation, as well as its possibilities as a guide to correct methods of living.

BOOK REVIEW

"MODERN OFFICE APPOINTMENT FOR THE ORTHODONTIST." By R. C. WILLETT, D.D.S., Peoria, Ill., published in the *International Journal of Orthodontia*, has reached this office in the form of a reprint, and is worthy the attention of all professional men who did not see the original publication.

Dr. Willett has combined beauty, which in this instance is only another word for excellent taste, with utility, and evolved an office which must appeal to all who would dignify their calling by providing proper surroundings.

The illustrations are very good, and show clearly the arrangement of the rooms and the general scheme of decoration as well as the style and distribution of the furnishings.

The article brings out the fact, which is too little considered, that the office appointments proclaim the characteristics of the individual who occupies the office, and we are free to say that from the excellent description and illustrations of Dr. Willett's office, he is a man well worth knowing.

SOCIETY AND OTHER NOTES

SECOND ANNUAL REPORT

OF THE

DENTAL COMMITTEE OF THE BRIDGEPORT, (CT.), BOARD OF HEALTH

TO THE BRIDGEPORT BOARD OF HEALTH;

GENTLEMEN:—

The following is a report of the work accomplished by the dental corps in the public schools for the past year, from September, 1915, to the closing of school, June 21, 1916.

The corps comprised fourteen dental hygienists, two supervisors and one woman dentist until April 1, 1916, when one additional hygienist was appointed.

Total number of individual children given prophylactic treatments . . . 10,990

Total number of prophylactic treatments given . . . 20,850

Total number of children receiving one treatment . . . 1,890

Total number of children receiving two or more treatments . . . 9,100

These figures would have been considerably increased if it had not been for the long illness of one of the dental hygienists.

Drs. A. C. Fones and R. H. W. Strang gave stereopticon lectures to 8,462 children. The supervisors, Miss House and Mrs. Hart, gave tooth brush drills to 18,006 children.

Practically all of the children in the first three grades are supplied with tooth brushes and we note that new brushes are being purchased quite freely, both in the schools and the stores of the city. During the past year 5,150 tooth brushes were sold in the schools to the children of these grades.

In order to prove definitely the value of the educational and preventive work, it was necessary to have the data of the condition of the mouths of the children in a higher grade who had never had the advantages of prophylactic treatments, tooth brush drills and the education in mouth hygiene. We, therefore, selected the children in the fifth grade and the following is a report of our findings as to the condition of their mouths and teeth.

FINDINGS IN FIFTH GRADE EXAMINATIONS

The total number of children examined in the fifth grade was 1,946 and the average age was twelve years.

State of Teeth			Color of Gums			Fistulas Showing Abscesses	Cases of Malocclusion
Clean	Fair	Dirty	Dark Red	Light Red	Pink		
77	658	1211	581	1244	121	142	1867

The Use of the Tooth Brush			Cavities	
Daily	Occasionally	Not Used	In Temporary Teeth	In Permanent Teeth
307	1060	579	2906	10,726

Of the 1,946 children, 629 had lost from one to four of the first permanent molars. The total number of first permanent molars lost was 1,183. There were but 33 children out of nearly 2,000 who had no cavities in the permanent teeth and but 257 children had had molars filled outside of school. It will be noted that at twelve years of age these children have an immense number of cavities in the permanent teeth, and one can readily realize, without being a dentist, what the condition of the mouths will be when the children reach the ages of eighteen

or twenty. An analysis of this data will demonstrate quite conclusively the great importance of our effort to better this phase of physical defect which is truly vicious.

When the children in the second grade the past school year, reach the fifth grade three years from now, we will then make a comparison of their mouths with the above table, endeavoring to show that this system of prevention is doing all that we hope it will do to secure sound teeth and healthy mouths for our school children.

Dr. Elizabeth Beatty, the school dentist, has been doing an excellent work in aiding us to save the first permanent molar teeth, which are of such importance.

Her report shows:

Total number of individual children having teeth filled	570
Total number of sittings	821
Total number of children worked for in the first grade	139
Total number of children worked for in the second grade	414
Total number of children worked for in the third grade	8
Total number of children worked for in the fourth grade	7
Number of alloy fillings in permanent teeth	2,520
Number of cement fillings in permanent teeth	104
Number of gutta percha fillings in permanent teeth	2
Number of alloy fillings in temporary teeth	54
Number of cement fillings in temporary teeth	53
Number of gutta percha fillings in temporary teeth	6
Treatments for the relief of pain in permanent teeth	81
Treatments for the relief of pain in temporary teeth	8
Extractions of permanent teeth	4
Extractions of temporary teeth	211
Total number of molars filled for children in the lower grades	1,683

Aside from the work reported in these grades, there were 95 extractions and 66 treatments for children in the higher grades.

A central clinic has been conducted by Dr. Henry S. Riddell for the relief of pain and the extraction of badly decayed permanent teeth, when the cases were too severe to be cared for in the schools. The operations performed were as follows:

Extractions	100
Treatments	35
Root fillings	11
Alloy fillings	7
Cement fillings	15

The total cost of this service amounted to \$135.50.

Numerous requests have been made by the children in the higher grades for the prophylactic treatments, and in order that they should have an opportunity to have their teeth cleaned and polished, and be given instructions in the proper use of the tooth brush, a summer clinic has been established in the following schools; Lincoln, Barnum, Prospect, Shelton, Maplewood and Whittier.

Our work has been considerably handicapped by the great influx of new children into the schools, but even with these unlooked for additional numbers the dental corps has succeeded in taking care of the first three grades quite thoroughly.

We are very grateful to the principals and teachers for their hearty coöperation in aiding us in every way in our work of dental education and the prevention of dental decay.

Respectfully submitted,

R. H. W. STRANG, M.D., D.D.S.
J. H. CALLAHAN, D.D.S.
W. J. McLAUGHLIN, D.D.S.
T. A. GANUNG, D.D.S.
A. C. FONES, D.D.S., CHAIRMAN.

July 1, 1916.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

Of THE DENTAL DIGEST
at NEW YORK, N. Y.

published monthly
for October 1, 1916.

State of New York }
County of New York } ss.

Before me a Notary Public in and for the State and county aforesaid personally appeared John R. Sheppard who, having been duly sworn according to law, deposes and says that he is the Secretary of The Dentists' Supply

Co., publishers of THE DENTAL DIGEST, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are:

NAME OF	POST-OFFICE ADDRESS
Publisher, THE DENTISTS' SUPPLY COMPANY	Times Square, 220 W. 42nd St., New York
Editor, GEORGE WOOD CLAPP	New Rochelle, N. Y.
Managing Editor, GEORGE WOOD CLAPP	New Rochelle, N. Y.
Business Manager, GEORGE WOOD CLAPP	New Rochelle, N. Y.

2. That the owners are:

NAME OF	POST-OFFICE ADDRESS
THE DENTISTS' SUPPLY COMPANY	220 W. 42nd St., New York, N. Y.
GEORGE H. WHITELEY	York, Pa.
DEAN C. OSBORNE	1347 Dean St., Brooklyn, N. Y.
SADIE E. L. OSBORNE	1347 Dean St., Brooklyn, N. Y.
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VIOLA F. GOOD	New Rochelle, N. Y.
ETHEL F. TOMB	Springfield, Mass.
MABEL G. DE SANNO	Oak Lane, Philadelphia, Pa.
DE TREY & Co., Ltd.	13 Denman St., London, Eng.

de Trey & Co., Ltd., is a corporation organized under the laws of England, with authorized capital stock of 500,000 shares of One Pound each, ownership of which is scattered over a considerable part of Europe and includes a long list of names unknown to us, and probably a number of banks and other corporations.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

THE DENTISTS' SUPPLY COMPANY
JOHN R. SHEPPARD, Sec'y & Treas.

Sworn and subscribed before me this 20th day of September, 1916.

[SEAL] HERBERT V. DIKE

Notary Public New York County No. 94

—My commission expires March 30, 1918

Register's No. 8085

U. S. NAVAL DENTAL CORPS

October 10, 1916.

SIR:—

I am forwarding herewith the latest circular for the information of persons desiring to enter the Dental Corps of the Navy, and the following abstract taken therefrom:

"U. S. Naval Dental Corps.—By Act of Congress, approved August 29, 1916, a large increase was provided for in this Corps, there being at the present time about fifty vacancies.

"Citizens of the United States, between 24 and 30 years of age, graduates of a standard medical or dental college, of good moral character and habits, are eligible.

"Candidates are required to be physically sound, and to pass an examination in the usual professional branches; and an oral examination in preliminary education (diplomas or certificates may be submitted to the Board in this connection).

"The next examination will take place in Washington, D. C., November 13, 1916. Subsequent dates will be announced later. Expenses are not allowed candidates appearing for examination.

"Dental officers are entitled to all the military courtesies and considerations accorded to other officers of the Navy. Pay ranges from \$2,000 to \$4,000 per annum, with allowances for quarters, and heat and light, if same is not furnished.

"For further information address the Surgeon-General, U. S. Navy, Navy Department, Washington, D. C."

Remembering your courtesy in giving space last year in your journal to this subject, I have considered that you might again feel like announcing the above in your columns as an item of interest to your readers.

Very truly yours,

W. C. BRAISTED.

Surgeon-General, U. S. Navy.

The Editor,
DENTAL DIGEST,
New York, N. Y.

FUTURE EVENTS

- November 8-9, 1916.—The Northwestern District of the Iowa State Dental Society will hold its Annual Clinic and Manufacturers' Exhibit at Martin Hotel, Sioux City, Iowa.—C. E. WESTWOOD, *Secretary*.
- November 13, 1916.—Illinois State Board of Dental Examiners, Chicago College of Dentistry, Chicago.—O. H. SEIFERT, Springfield, Ill., *Secretary*.
- November 13-18, 1916.—Michigan State Board of Dental Examiners, Dental College, Ann Arbor.—E. C. GILLESPIE, *Secretary*.
- November 16-18, 1916.—St. Louis Dental Society, Planters Hotel, St. Louis, Mo.—CLARENCE O. SIMPSON, Century Bldg., St. Louis, *Secretary*.
- November 20-26, 1916.—The Indiana State Board of Dental Examiners, State House, Indianapolis.—FRED J. PROW, Bloomington, Indiana, *Secretary*.
- December 4, 1916.—Iowa State Board of Dental Examiners, Iowa City, Iowa.—J. A. WEST, 417 Utica Bldg., Des Moines, Ia., *Secretary*.
- December 5-7, 1916.—Ohio State Dental Society, Dayton, O.—F. R. CHAPMAN, *Secretary*.
- December 6-9, 1916.—Pennsylvania Board of Dental Examiners, Musical Fund Hall, 808 Locust Street, Philadelphia, and at the University of Pittsburgh, Pittsburgh, Pa.—ALEXANDER H. RENHOLDS, 4630 Chester Ave., Philadelphia, Pa., *Secretary*.
- December 13, 1916.—Next examination for a license to practise dentistry in California; held in San Francisco.—C. A. HERRICK, 133 Geary St., San Francisco, *Secretary*.
- January 9, 1917.—South Dakota State Board of Dental Examiners, Sioux Falls, S. D., beginning at nine o'clock and will continue three days.—ROBERT JASMANN, Scotland, So Dak., *Secretary*.
- January 11, 1917.—North Carolina State Board of Dental Examiners, Greensboro, N. C.—F. L. HUNT, Asheville, N. C., *Secretary*.
- January 23-25, 1917.—American Institute of Dental Teachers, Hotel Adelphi, Philadelphia, Pa.—ABRAM HOFFMAN, 529 Franklin St., Buffalo, N. Y., *Secretary-Treasurer*.
- February 23-24, 1917.—Annual convention of the Minnesota State Dental Association, University of Minnesota, Minneapolis, Minn.—MAX E. ERNST, 541 Lowry Bldg., St. Paul, Minn., *Secretary*.
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One of the greatest mental helps toward physical health is to cultivate the habit of good will toward neighbors and those whom you meet, not forgetting your own family.